

# SAUDI POSTGRADUATE DIPLOMA IN FAMILY DENTAL MEDICINE

PROGRAM CURRICULUM



الهيئة السعودية للتخصصات الصحية  
Saudi Commission for Health Specialties





# SAUDI POSTGRADUATE DIPLOMA IN FAMILY DENTAL MEDICINE

## PROGRAM CURRICULUM

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# 1. General Information

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The Saudi Commission for Health Specialties (SCFHS) has identified an opportunity to develop post-graduate diplomas that will facilitate an alternative health career path for doctors and dentists—the Saudi Postgraduate Diploma (SPD). The goal of these diplomas is to fulfill a need for young Saudi doctors and dentists to upgrade their level of expertise in a particular specialty to that of Registrar. Graduates of the SPD will be eligible to apply for a post as a Registrar after they successfully complete the diploma and acquire two years of clinical experience in the specialty.

The vision is that these programs will make full use of advances in technology to deliver standardized, blended learning, which will enable trainees to achieve the requisite expertise while maintaining their existing duties.

The diplomas are two years in duration and will include a well-defined curriculum. They encompass clear learning outcomes, and expect clinical and knowledge-based competencies. Learning is gained through e-learning modules, masterclasses and simulation workshops that need to be completed. They will be aimed at dental practitioners employed in various dental hospitals or dental clinics in the Kingdom. Continuous employment within a dental facility for the duration of the diploma is required. Each trainee will be supervised and guided through the program, utilizing a blend of self-directed learning and evaluation.

At the end of the program, trainees will undergo a formal examination administered by the SCFHS. In addition, there are a number of supervised, competency-based evaluations required throughout the two years. Upon successful completion of the program, the trainee will be awarded the SPD in Family Dental Medicine.

This program has been developed in partnership with the SCFHS, healthcare professionals and educators with expertise in Family Medicine.

The following team, which includes the SCFHS Scientific Committee, contributed to the development of the curriculum:

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- Dr Joe Gallagher – General Practitioner, Wexford, Ireland, Clinical Director, gHealth Research Group, University College Dublin
- **Denis Murphy MBA, MSc, FCMI, PGCPSE**  
Chief Administrative Officer: Association for Dental Education in Europe, Dublin Dental University Hospital: Trinity College: Dublin 2: Ireland

Note this curriculum document does not specify general course, program management or delivery policies and procedures. These topics will be adapted from the SCFHS guidelines or the guidelines of the Academic Healthcare Facility. They include policies such as Admissions, Trainee Registration, Deferrals, Plagiarism, Late/Missing Submissions, Exam boards, Releasing Results, Issuing of Awards etc.

## 2. Introduction

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After 2015, the United Nations 8 Millennium Development Goals produced the 17 Sustainable Development Goals (SDGs) Health-related SDGs are regarded as crucial streams that must and will be monitored in order to enforce national and global accountability regarding the well-being of the world's population.

The World Health Organization further reiterates this message; "*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*". It is believed that there is a need to train dentists who are far more than just competent technicians, but rather health professionals responsible for oral health with a more than average knowledge of general health.

### 2.1 Mission

The *Saudi Postgraduate Diploma in Family Dental Medicine* aims to provide an educational platform that combines an advanced multidisciplinary clinical experience with a strong educational component. It emphasises the application and integration of inter-professional approaches and basic sciences, as part of a problem-solving and evidence-based multidisciplinary approach to care. It also advocates closer ties between dental medicine and general medicine, forging new linkages between primary care providers and the community.

### 2.2 Vision

The aim of this curriculum is to identify the competencies considered essential for a family dentist working within the Kingdom. It sets the standard in establishing a global dental program that promotes a holistic approach to patients, based on sound principles of Interprofessional Collaborative Care (IPCC) and social accountability.



Given the scope of practice, trainees of the *Saudi Postgraduate Diploma in Family Dental Medicine* will be expected to serve as integral members of clinical teams across hospital and community settings. They will consult on a wide variety of cases, with an emphasis on medically compromised patients.

Training beyond the level of pre-doctoral education in clinical dentistry and applied basic and behavioral sciences will be provided. This will enhance the development of the skills needed to address the social determinants of health and therefore provide comprehensive patient care for all patient populations.

The diploma will provide participants with a broad range of knowledge, skills and behaviours that will make them eligible for employment at the Registrar level. The Family Dental Medicine diploma requires participants to undergo a total of 24 months supervised training in an SCFHS approved facility.

### 3. Rationale for the Course

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Many diseases affecting the various systems of the human body are relevant to oral health and oral healthcare. Most dental schools still teach medicine as a separate discipline to dentistry, although many of these diseases affecting patients relate to the individual as a whole. A grounding in basic medical practice would ensure that a dental physician would be able to recognize the systemic diseases that are most prevalent in the population. By providing an overview of the clinical signs and symptoms, pathophysiology, differential diagnosis, management, and prognosis, the aim is to provide an understanding of the implications of a disease and its consequences on both dental management, and the impact on the patient. A further advantage to this approach is to encourage specialists in family dentistry to work seamlessly with their general medical practitioner colleagues.

### 4. Program Objectives

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Graduates of the *Saudi Postgraduate Diploma in Family Dental Medicine* will be eligible to work at Registrar level in Family Dentistry. After graduating, they may work independently, in a secondary dental hospital or community setting, with remote access to specialist consultants when necessary.

**Graduates will be expected to:**

- Have greater depth of medical knowledge than that covered during undergraduate dental studies.
- Recognize and understand the pathophysiology of the most prevalent diseases in each organ system.
- Request common special investigations when necessary, be able to interpret the results and take appropriate action.

- Have the ability to interpret and integrate primary medical test results into dental care.
- Achieve competency in providing primary dental care services to a higher standard, based on current evidence.
- Effectively manage medical emergencies that might arise in dental practice.

## 4.1 CanMEDS Framework

The SPD in Family Dental Medicine will also produce dental practitioners with the following CanMEDS competencies:

1. **Medical Expert**  
Dental practitioners integrate all of the CanMEDS roles, applying medical knowledge, clinical skills and professional attitudes in their provision of patient-centred care. Medical Expert is the central role in the CanMEDS framework.
2. **Communicator**  
They effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during and after the medical encounter.
3. **Collaborator**  
Work within a health care team to achieve optimal patient care.
4. **Manager**  
As integral participants in health care organisations, organising sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.
5. **Health Advocate**  
Responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations.
6. **Scholar**  
Demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.
7. **Professional**  
Committed to the health and well-being of individuals and society through ethical practice, professional-led regulation and high personal standards of behaviour.

## 5. Entry Criteria

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The following entry criteria are required to successfully enrol in this diploma:

- A dental degree (e.g., BDS, DMD, DDS) from an accredited University Dental School)
- A valid Saudi Commission license
- One-years' experience in general dental practice
- Approval from employer, if applicable, and compliance with entry criteria, including settlement of tuition fees.

## 6. Teaching and Learning Strategy

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The program is organized in a way that helps trainees build on their knowledge and skills by means of a variety of learning and teaching methods, taking into account that trainees will be adult learners with different learning styles. They will also be working full-time in a General Dental Department and progress through the modules will be largely self-directed. It is assumed that the fundamental dental clinical skills and competencies will have been obtained in the trainee's undergraduate training, so the focus will be on enhancing and advancing these clinical skills in the various disciplines. The integration of many of the aspects of 'family medicine' will be new concepts for the trainees.

In addition to the breadth of learning that working under supervision brings, a variety of specific learning methods will be used in each module. These include self-directed e-learning modules and reading, simulation workshops, masterclasses and regular tutorials/discussions with an Educational Advisor.

Learning will also be driven by the trainees in initiating a number of workplace-based assessments for each module, which will be evaluated by their Program Director or a Topic Specialist. These assessments include Directly Observed Procedural Skills (DOPS), Mini Clinical Evaluation Exercises (Mini CEX) and structured case reports with a reflective element. It is essential to note that the trainee's Program Director or a Topic Specialist is responsible for signing off on the trainee's clinical competency during the training period.

### 6.1 Theoretical Knowledge

Theoretical knowledge will be provided to trainees using various educational methods. These include e-learning materials, discovery-based games, masterclasses, tutorials, group discussions and regular sessions with the Educational Advisor, Program Director and other clinical instructors. A list of recommended reading is also provided within this curriculum document for self-study.

#### 6.1.2 Masterclasses

These focused teaching days will be led by experts in their discipline, sharing their knowledge, experience and insights with trainees. They may contain some hands-on elements.

### 6.2 Clinical Knowledge and Skills

Trainee's clinical knowledge and skills will be reinforced throughout the program by their supervised clinical practice, participation in simulation activities and workshops, and by the case-based discussion sessions.

### 6.2.1 Supervised clinical practice

Topic Specialists/Demonstrators will provide guidance, evaluation and feedback on the trainees' clinical skills and procedures. They will also contribute in **group discussion sessions**. Successful supervised clinical sessions must be recorded and verified by the Program Director as they are a core element of a trainee's success on the program. [See Appendix 6 for a summary of requirements]

**Simulation workshops** will focus on clinical procedures and techniques, manipulation of materials and use of equipment. This will take place with structured practical guidance and supervised hands-on simulated activities in a phantom head laboratory. [See Appendix 3 for workshop details]

**Case-based discussions** should be conducted on a regular basis (at least every two weeks) between the trainee and their Educational Advisor or Program Director. This is to assess and provide feedback on the trainees' clinical judgment and decision-making, as well as his or her ability to record information accurately and contemporaneously. Discussions will include patient notes, referral letters and outlined treatment plans and critical thinking skills. Trainees will be assigned an Educational Advisor to guide, discuss, evaluate and provide feedback as they progress through the program.

### 6.2.2 Rotations

- Trainees will be required to spend time in a hospital-based medical radiology center, to obtain practical knowledge and real life experience of the workings of a modern, sophisticated hospital-based radiology service. This ties in with Oral Diagnosis and Radiology sections of the curriculum.
- Trainees will also be required to spend time in community family medicine settings to acquire a broad range of family medicine experience.
- Finally, trainees will be expected to spend three weeks in a hospital internal medicine setting.

## 7. Program Structure

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The SPD in Family Dental Medicine is delivered over a two-year period, during which time trainees will be working in an SCFHS-accredited Dental Centre. The diploma is organized in a structured way which aims to enhance the horizontal and vertical integration of the module content, avoiding undesirable repetition and maximizing the trainees' learning curve.

Year 1	Year 2
<ol style="list-style-type: none"> <li>1. Human Disease &amp; Medical Implications in Dentistry Part I</li> <li>2. Oral Diagnosis, Oral Medicine and Dental Radiology</li> <li>3. Medical Emergencies in Dentistry</li> <li>4. Restorative Dentistry</li> <li>5. Endodontics</li> <li>6. Periodontology and Implant Principles</li> <li>7. Pediatric Dentistry</li> <li>8. Dental Materials</li> <li>9. Pain Management and TMD</li> <li>10. Radiology Rotation</li> <li>11. Family Medicine Rotation I</li> </ol>	<ol style="list-style-type: none"> <li>1. Human Disease &amp; Medical Implications in Dentistry Part II</li> <li>2. Minor Oral Surgery</li> <li>3. Oral Rehabilitation</li> <li>4. Frail Elderly</li> <li>5. Clinical Pharmacology</li> <li>6. Behavioral Sciences, Special Needs Patients and Pregnancy</li> <li>7. Orthodontics</li> <li>8. Chemical Dependence</li> <li>9. Practice management, Quality and Risk Management</li> <li>10. Social Determinants of Health and Global Health.</li> <li>11. Family Medicine Rotation II</li> <li>12. Internal Medicine Rotation</li> </ol>

# 8. Program Syllabus and Competencies

Modules	Teaching & Learning Approach										Assessment			
	Workplace Experience	eLearning Reading	Tutorial / Case Based Discussions	Discussion Forum	Simulation Session / Workshop	Supervised Practice	Log Self-Study & Research	Masterclass	DOPS	Mini-CEX	Case Based Discussions	Structured Case Report w/ Reflection	Online end of module quiz	
Human Disease and Medical Implications in Dentistry I	✓	✓	✓	✓	✓	✓	✓					✓		
Oral Diagnosis, Oral Medicine and Dental Radiology	✓	✓	✓	✓		✓	✓			3		✓		
Medical Emergencies in Dentistry	✓	✓	✓	✓	✓	✓	✓	ACLS		3	✓	✓		
Restorative Dentistry	✓	✓	✓	✓	✓	✓	✓		2	3		✓		
Endodontics	✓	✓	✓	✓	✓	✓	✓		3	2	✓	✓		
Periodontology & Implant Principles	✓	✓	✓	✓	✓	✓	✓	✓	2	2	✓	✓		
Pediatric Dentistry	✓	✓	✓	✓	✓	✓	✓		1	2	✓	✓		
Dental Materials	✓	✓	✓	✓	✓	✓	✓			1		✓		
Pain Management and TMD	✓	✓	✓	✓	✓	✓	✓			1		✓		
Radiology Rotation	✓	✓	✓	✓	✓	✓	✓					✓		
Family Medicine Rotation I	✓	✓	✓	✓	✓	✓	✓		3		✓	✓		
Human Disease and Medical Implications in Dentistry II	✓	✓	✓	✓	✓	✓	✓					✓		
Minor Oral Surgery	✓	✓	✓	✓	✓	✓	✓	✓	2	2		✓		
Oral Rehabilitation	✓	✓	✓	✓	✓	✓	✓		1	3	✓	✓		
Frail Elderly	✓	✓	✓	✓	✓	✓	✓			1		✓		
Clinical Pharmacology	✓	✓	✓	✓	✓	✓	✓					✓		
Behavioral Sciences, Special Needs Patients and Pregnancy	✓	✓	✓	✓	✓	✓	✓		2	2	✓	✓		
Orthodontics	✓	✓	✓	✓	✓	✓	✓			2		✓		
Chemical Dependence	✓	✓	✓	✓	✓	✓	✓			2		✓		
Practice Management, Quality & Risk Management	✓	✓	✓	✓	✓	✓	✓					✓		
Social Determinants of Health & Global Health	✓	✓	✓	✓	✓	✓	✓					✓		
Family Medicine Rotation II	✓	✓	✓	✓	✓	✓	✓		2		✓	✓		
Internal Medicine Rotation	✓	✓	✓	✓	✓	✓	✓					✓		

\* includes e-learning modules

## 8.1 Year 1: Human Disease and Medical Implications in Dentistry Part I

The SPD program will provide an overview of the clinical signs and symptoms, pathophysiology, differential diagnosis, management and prognosis of disease. Participants will learn to recognize the implications of such diseases and their treatment on the oral health management of the patient. This will enable graduates of this program to seamlessly collaborate and communicate properly with medical colleagues to ensure whole patient care.

### 8.1.1 Topics and Competencies

The competencies for this module are broken down into a number of specific areas. On successful completion of this module (and the associated Family and Internal Medicine rotation), trainees will be able to:

#### Medical History and Assessment

1. Obtain and record a detailed medical and dental history focusing on conditions that may increase risk of oral disease or treatment complications.
2. Identify common medications that may affect dental treatment.
3. Undertake a thorough physical examination to ensure appropriate patient management.
4. Identify special investigations that may be required based on the history and examination.
5. Identify how to modify treatment based on identified risks and recognize when specialist referral is required.

#### Pre-operative Care

1. Describe the principles of informed consent, how it should be obtained and recorded.
2. Explain human factors in preoperative assessment and how these may affect outcomes.
3. Select appropriate preoperative tests and consultations.

#### Cardiovascular Disease

1. Identify cardiovascular conditions relevant to dentistry based on; patient history, including chest pain, dyspnoea, syncope, history of rheumatic heart or valve disease, common arrhythmias, heart failure, and cardiac transplant.
2. Recognize symptoms that may suggest undiagnosed cardiovascular disease in a patient and refer to appropriate colleagues.
3. Identify cardiovascular medications that may affect dental treatment and know how to manage common medications during dental treatment.
4. Identify patients that may need specialist review or advice before dental treatment.
5. Identify patients who may require antimicrobial prophylaxis based on their medical history and apply current clinical guidelines in their management.
6. Understand the principles of managing patients with implantable devices such as pacemakers or implanted defibrillators during dental treatment.
7. Select appropriate anaesthetic options for patients with cardiovascular disease.

*Cardiovascular emergencies will be covered in the medical emergencies module.*

## Haematological Disorders

1. Describe common haematological disorders—bleeding disorders, anaemia, & G6PD. *Malignant haematological conditions will be covered in the malignant disease section.*
2. Identify patients preoperatively with bleeding problems due to disease or medication.
3. Identify those patients who require specialist review prior to dental procedures.
4. Understand the principles of management of dental treatment in people with bleeding disorders due to: deficiencies in clotting factors (such as haemophilias, von Willebrand disease, liver disease), vascular disorders such as hereditary haemorrhagic telangiectasia or thrombocytopenias.
5. Recognize possible causes of prolonged bleeding following dental treatment.
6. Undertake initial investigations of people with prolonged bleeding following dental treatment and refer appropriately.
7. Identify and manage common medications that may cause prolonged bleeding following dental treatment in consultation with specialists, if required.
8. Understand the principles of management of prolonged bleeding following dental treatment.

## Malignant Disease

1. List common malignancies seen in childhood, adolescence and adulthood.
2. Describe how non-oral malignancies may present in dental practice.
3. Describe the main modes of therapies for malignancies.
4. Discuss the side-effects of cytotoxic chemotherapy.
5. Discuss the side-effects of radiotherapy.
6. Recognize the oral healthcare requirements of people undergoing radio- and chemotherapy.
7. Recognize the dentist's role in a multidisciplinary approach to cancer care.
8. Describe the potential oral consequences of and management of oral cancer therapies and their treatment.

## Respiratory Disorders

1. Undertake a relevant history and dental examination for patients with respiratory symptoms.
2. Identify common acute and chronic respiratory disorders that may have a relevance to dental care – asthma, COPD, bronchiectasis/cystic fibrosis, TB, sinus disease, sarcoidosis, URTI, LRTI, and occupational lung disease. *Lung cancer will be covered in malignant disease section.*
3. Describe common medications used in respiratory disease and how these may impact oral health and dental treatment.
4. Recognize how respiratory disease may affect choice of prescribed medications e.g. avoidance of NSAIDs in asthma.
5. Discuss the relevance of respiratory disorders for choice of anesthesia technique (including general/local anesthesia and sedation).



## Gastro-intestinal & Liver Disease

1. Undertake a relevant history and dental examination for patients with gastrointestinal (GI) symptoms or disease.
2. Describe common GI disorders that can impact dental health.
3. Describe the manifestations and common causes of liver disease and initial investigations.
4. Recognize common drugs used in GI disorders and liver disease and how these can impact dental treatment.
5. Describe how GI and liver disease may influence prescription of drugs and choice of anaesthesia/sedation.
6. Recognize causes of acute and recurrent oral ulceration and order appropriate initial tests to identify these.
7. Describe the investigation and management of halitosis.
8. Describe the management of peptic ulcer disease and medications prescribed in dentistry which may affect it.
9. Identify risk factors for viral hepatitis and outline initial diagnosis.
10. Explain the importance of hepatitis B immunization for the dental team.

### 8.1.2 Educational Resources

- e-Learning modules & self-study
  - Cardiovascular disease
  - Haematology/Oncology
  - Respiratory Disorders
  - Gastrointestinal and Liver Disease
  - Pre-operative assessment
- Medical Skills Workshop [See Appendix 3 for details]
- Group Discussions/Tutorials with Educational Advisor
  - Self-Directed Resources
    - Dental Management of the Medically Compromised Patient. James W. Little

## 8.2 Year 1: Oral Diagnosis, Oral Medicine and Oral Radiology

Similar to the diagnosis of disease elsewhere in the body, oral diagnosis can be complicated by multiple factors. Clinical signs of different diseases may be similar; the presentation of an oral ulcer could be simply the result of minor trauma but an ulcer could also represent a squamous cell carcinoma. Similarly, symptoms of different diseases may be similar. In some cases, signs and symptoms may be hidden. It is therefore essential that trainees acquire the necessary knowledge and skills for careful assessment and management of orofacial disease. This module will cover comprehensive patient assessment and diagnosis, including an update on dental radiographic interpretation. Knowledge of oral mucosal disease, oral manifestations of systemic disease and dental pathology will also be reviewed.

### 8.2.1 Competencies

On successful completion of this module, trainees will be able to:

1. Perform a comprehensive clinical examination of a patient's head and neck region.
2. Interact with other health care providers in the medical risk assessment of patients.
3. Competently collect and interpret clinical data.
4. Determine the differential and/or definitive diagnosis of oral disease based upon the interpretation of the clinical/laboratory data acquired.
5. Compare protocols for the management of suspicious lesions and other oral conditions.
6. Recognize the need and the timing for appropriate referral based on current protocols.
7. Write a referral letter highlighting appropriate clinical details.
8. Explore best practice approaches to communicate and collaborate with dental and medical practitioners and specialists.
9. Analyze approaches to participate in the management of oral diseases and conditions.

### 8.2.2 Topics

In order to achieve the module's aims, trainees will be expected to address the following topics:

- Comprehensive history taking and examination
- Record keeping appropriate for the monitoring and management of oral conditions
- Oral radiology (including principles of radiation protection)
- Clinical photography
- Examination of the neck and cervical lymph nodes
- Analysis and interpretation of radiographic images and clinical laboratory tests
- Emerging diagnostic techniques
- Oral mucosal disease
- Developmental defects of the oral cavity
- Abnormalities of teeth
- Oral pathology
- Potentially malignant disorders and principles of oral oncology
- Oral manifestations of systemic disease
- Iatrogenic lesions of the oral cavity.

### 8.2.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Crispian Scully. Oral and Maxillofacial Medicine: The Basis of Diagnosis and Treatment. Churchill Livingstone; 3<sup>rd</sup> Edition 2012
  - George Laskaris. Color Atlas of Oral Diseases: Diagnosis and Treatment. Thieme; 4<sup>th</sup> Edition, 2017
  - Brad W. Neville, Douglas D. Damm, Carl M. Allen, Angela C. Chi . Oral and Maxillofacial Pathology. Saunders 4<sup>th</sup> Edition 2015

- Joseph A. Regezi, James Sciubba, Richard C. K. Jordan. Oral Pathology: Clinical Pathologic Correlations. Saunders; 7<sup>th</sup> Edition 2016
- Robert E. Marx, Diane Stern. Oral and Maxillofacial Pathology: A Rationale for Diagnosis and Treatment. Quintessence Pub Co. 2<sup>nd</sup> Edition 2012.
- Whaites, E. Essentials of dental radiography and radiology. Churchill Livingstone, 5<sup>th</sup> Edition 2013.

## 8.3 Year 1: Medical Emergencies in Dentistry

Medical emergencies can and do occur in the dental setting. A proper physical evaluation of the prospective dental patient, using a systematic review of the patient's medical history and recording of vital signs, can help to prevent nearly 75 percent of such medical emergencies. Assigning an ASA Physical Status can help to distinguish those patients who represent greater-than-usual risk during planned dental treatment. The stress-reduction protocol can then be utilized to minimize this risk.

Nonetheless, not all medical emergency situations can be prevented. In this section, we discuss the preparation of the dental team to prevent, recognize and efficiently manage the medical emergencies that might arise. Furthermore, the trainees will also be expected to be trained in advanced cardiac life support and use of an AED. This will include being able to structure a practice emergency response team, activate emergency medical services and put together and handle a basic emergency drug kit and associated equipment.

### 8.3.1 Competencies

On successful completion of this module, trainees will be able to:

1. List the prevalence and types of medical emergencies which occur in dental practice.
2. List the common causes for collapse in the dental surgery.
3. Recognize the importance of medical risk assessment in reducing the chance of an emergency occurring.
4. Explain the indications for use of emergency drugs and equipment.
5. Understand the pharmacology of the drugs contained within the emergency kit.
6. Explain current approaches to managing an emergency and the principles of basic life support.
7. Be able to explain the importance of early defibrillation and steps for using an AED.

### 8.3.2 Topics

- Prevention of medical emergencies
- Risk status classification (American Society of Anesthesiologists Physical Status, Classification System and stress-reduction protocols)
- Basic emergency algorithm: P-C-A-B-D (Positioning Circulation Airway Breathing Definitive Care)
- Cardiopulmonary resuscitation
- Altered consciousness (including vasovagal syncope)
- Hypoglycaemia

- Stroke (cerebrovascular accident)
- Seizures (status epilepticus)
- Respiratory distress (e.g. asthma bronchospasm, hyperactive airway disease—hyperventilation, heart failure and acute pulmonary edema, foreign body airway obstruction)
- Management of drug allergies (anaphylaxis) and overdoses
- Chest pain and cardiovascular emergencies e.g. shock, angina and acute myocardial infarction (AMI)
- Cardiac arrest (e.g. signs and symptoms, management, pediatric cardiac arrest).

### 8.3.3 Educational Resources

- e-Learning modules and self-study
- Group Discussions/Tutorials with Educational Advisor
- ACLS Certification
- Self-Directed Resources
  - Stanley F. Malamed. Medical Emergencies in the Dental Office. Mosby; 7th Edition 2014
  - Orrett E. Ogle, Harry Dym, Robert J. Weinstock. Medical Emergencies in Dental Practice. Quintessence Pub Co; 1<sup>st</sup> Edition 2015
  - Frieda Pickett, JoAnn R. Gurenlian. Preventing Medical Emergencies: Use of the Medical History in Dental Practice. LWW; 3<sup>rd</sup> Edition 2014.

## 8.4 Year 1: Restorative Dentistry

Dental caries is a major public health problem globally and listed as the most prevalent condition included in the 2015 Global Burden of Disease Study. Tooth wear or non-cariou tooth surface loss (TSL) is also a common clinical finding with an increasing prevalence. Although not life-threatening, these dental diseases can have a detrimental effect on quality of life, impacting self-esteem, eating ability, nutrition and general health.

This module will include approaches for the assessment of risk, diagnosis and monitoring of dental disease. It will study the rehabilitation of the dentition to meet the functional and aesthetic requirements of patients, using a contemporary, minimally invasive approach.

This section aims to equip the family dentistry practitioner with an understanding and appreciation of the foundations of effective evidence-based restorative dentistry principles. Critical study of these concepts and associated principles, as well as how they can be developed and applied in practice, will be explored and encouraged.

### 8.4.1 Competencies

On successful completion of this module, trainees will be able to:

1. Describe the key principles of a minimally invasive approach.
2. Describe current concepts in the aetiology and prevention of dental caries and tooth wear.
3. Recognize the importance of risk assessment, relating to caries and tooth wear.
4. Implement diagnosis and classification of caries lesions according to the guidelines issued by ORCA (European Organization for Caries Research) and ICDAS (International Caries Detection and Assessment System).

5. Develop refined diagnostic and treatment planning skills that focus on maximizing the preservation of healthy oral tissues.
6. Apply modern principles of minimally invasive intervention and conservative cavity preparation to manage carious teeth.
7. Select and apply a comprehensive range of equipment and restorative materials using evidence-based techniques.
8. Understand the functioning of a healthy masticatory system and use this knowledge to provide an insight into occlusion and its implications in dentistry.
9. Apply principles of good occlusal practice using a conformative approach.
10. Recognize and manage restorative emergencies.
11. Assess, plan and restore endodontically treated teeth.

#### 8.4.2 Topics

- Caries risk assessment, diagnosis and prevention
- Minimally invasive techniques (including moisture control)
- Bleaching (vital and non-vital techniques)
- Restorative materials
- Principles of occlusion and the conformative approach
- Recall and maintenance
- Restorative emergencies and repair/refurbishment
- Foundation restorations including endodontically treated teeth

#### 8.4.3 Educational Resources

- e-Learning modules & self-study
- Group discussions/Tutorials with Educational Advisor
- Restorative Dentistry Workshop [See Appendix 3 for details]
- Supervised Practice
- Self-Directed Resources
  - Banerjee, A and Watson TF. 2011. Pickard's manual of operative dentistry. Oxford: Oxford University Press
  - Wilson NHF. 2007. Minimally invasive dentistry. UK: Quintessence
  - Hilton, TJ., Summitt JL, & Broome, JC. 2013. Summitt's fundamentals of operative dentistry: a contemporary approach 4<sup>th</sup> Edition, Quintessence Publishing
  - Davies S. What is occlusion? BJD series 2001: 191: 235-245.

### 8.5 Year 1: Endodontics

Endodontic therapy involves the prevention and treatment of apical periodontitis. It includes; precautions taken to maintain the health of the vital pulp in a tooth, or the treatment of a damaged or necrotic pulp to allow the tooth to remain functional in the dental arch.

This module aims to enhance trainees' knowledge and clinical skills in endodontics. It considers all options for the management of the compromised pulp. It includes; tooth preservation by vital pulp therapy, root canal treatment or nonsurgical/surgical retreatment, followed by adequate coronal restoration. It balances these against tooth loss and prosthetic/implant-supported replacement.

An understanding of the foundational knowledge of the aetiopathogenesis, diagnosis, principles of treatment planning, intervention timing and treatment success rates in different situations are required.

It is vitally important to assess the restorability of teeth preoperatively and to plan the restorative strategy before embarking on treatment. This will be emphasized by considering the foundational nature of endodontic procedures. Trainees will be required to; assess endodontic treatment complexity, recognize factors associated with treatment success and tooth survival, implement these within clinical decision-making, and recognize instances when referral would be in the best interest of the patient.

### **8.5.1 Competencies**

On successful completion of this module, trainees will be able to:

1. Assess the condition of the pulp and recognize the limitations of diagnostic tests.
2. Formulate an appropriate endodontic diagnosis from the history, examination and investigations undertaken.
3. Recognize conditions confounding diagnosis of endodontic problems.
4. Devise an appropriate strategy and treatment plan based on the likely prognosis and outcomes of the various treatment options.
5. Recognize and apply current best practice principles and techniques for performing the various phases of root canal therapy.
6. Assess prognosis and confounding factors and appropriately select cases for retreatment.
7. Apply biomaterial science relevant to endodontics to the selection of appropriate materials.
8. Manage endodontic emergencies.

### **8.5.2 Topics**

- Aetiopathogenesis of pulpal and periapical lesions
- Pain assessment and diagnosis
- Radiographic assessment and monitoring
- Perio-endo lesions
- Tooth restorability
- Instrumentation principles and approaches (hand and rotary techniques)
- Access canal preparation and measurement of working length
- Cleaning, shaping, irrigation and obturation techniques
- Dental materials
- Endodontic emergencies
- Endodontic referrals

### **8.5.3 Educational Resources**

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Endodontics Simulation Workshop [See Appendix 3 for details]
- Supervised Practice

- Self-Directed Resources
  - Chong BS. Harty's Endodontics in Clinical Practice 2016. Elsevier
  - Qualtrough A. 2016. Endodontic Series. Dental Update 2015; 42: 599-611
  - Briggs P and Bourne G. Endodontics or Implants? Dental Update 2018; 45:506-521.

## 8.6 Year 1: Periodontology and Implant Principles

Periodontal diseases are considered by the World Health Organization as one of two significant global burdens of oral disease, the other dental caries. Severe periodontitis has been found to affect 11% of adults worldwide with approximately 37% of the adult population suffering moderate levels of periodontitis (with four to six mm pocketing).

Numerous risk factors have been highlighted for periodontal disease including poor oral hygiene, tobacco use, diabetes, genetics, poor nutrition and stress. It is important to consider these factors when managing patients with periodontitis, in order to aid successful treatment. Thoroughly assessing and diagnosing the type of periodontal disease using the current classification system is essential.

The aim of this module is to review periodontal assessment and treatment using an evidence-based approach to the management and maintenance of patients in general practice.

### 8.6.1 Competencies

On successful completion of this module, trainees will be able to:

1. Describe the epidemiology and the role of Periodontics in public health.
2. Recognize the importance of an understanding of oral biology and how it relates to current approaches to periodontal therapy.
3. Explain the various risk factors for periodontal disease.
4. Recognize the interactions between periodontal health and systemic diseases.
5. Develop a philosophy and technique for patient education, plaque control and preventive dentistry.
6. Demonstrate clinical expertise in the risk assessment, diagnosis and management of periodontal disease.
7. Evaluate response and monitor patients with periodontal disease using current evidence-based approaches.
8. Manage the periodontal health of medically compromised patients.
9. Recognize and manage periodontal emergencies.

### 8.6.2 Topics

- Clinical anatomy of the of periodontium
- Risk assessment and periodontal screening
- Periodontal assessment (including periodontal charting, oral hygiene assessment and radiographs)
- Diagnosis and classification (including radiographic analysis, peri-implant disease, current classification)

- Systematic disease and periodontal disease interaction (including CVD, diabetes, pregnancy)
- Patient behaviour change (biofilm, smoking, diabetes, general health)
- Non-surgical therapy (including the role of antibiotics)
- Periodontal surgery (crown lengthening) & referral
- Periodontal aspects of restorative dentistry
- Implant assessment/planning and osseointegration
- Supportive periodontal therapy (maintenance).

### 8.6.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions / Tutorials with Educational Advisor
- Masterclass: Basic Implantology
- Supervised Practice
- Self-Directed Resources
  - Periodontal health and gingival diseases and conditions on an intact and a reduced periodontium: Consensus report of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. Br Dent J. 2018 Jul 27;225(2):141
  - The Good Practitioners Guide to Periodontology. British Society of Periodontology 2016. [https://www.bsperio.org.uk/publications/good\\_practitioners\\_guide\\_2016.pdf?v=3](https://www.bsperio.org.uk/publications/good_practitioners_guide_2016.pdf?v=3).

## 8.7 Year 1: Pediatric Dentistry

Both the American Academy of Pediatric Dentistry (AAPD) and the American Academy of Pediatrics (AAP) recommend that a dental visit should occur within six months after the presence of the first tooth or by a child's first birthday.

It is also pivotal that dental practitioners identify disease and promote optimal oral health in patients before and during pregnancy. Trainees will be expected to acquire the skills and competences needed to address and manage the oral health care needs of children after birth. They should also provide care and counseling to the mother during all the stages of pregnancy and puerperium.

This section provides guidelines to enhance the resident's skill and confidence in all areas of children's dentistry and management of the pregnant patient. Patient and parent education, motivation and preventive dentistry will be emphasized. The resident will explore techniques for managing the difficult child, including behaviour modification, oral sedation and relative analgesia. In combination with experience in orthodontics, the resident will be able to identify and treat occlusal problems within his/her capability and refer more difficult cases for definitive care.

### 8.7.1 Competencies

On successful completion of this module, trainees will be able to:

1. Describe the normal growth and development stages for children relating to oral structures.
2. Define and implement a comprehensive prevention plan under a broad family approach.



3. Diagnose, treatment plan and manage the oral problems of the pediatric patient through; restorative dentistry, pulp therapy, primary teeth extractions and space maintenance.
4. Implement behavior management strategies for pediatric patients.
5. Recognize signs of abuse and neglect and know what actions to take.
6. Perform periodontal screening in pediatric patients and know when to refer for specialist care.

### 8.7.2 Topics

- Child growth and development (anomalies of tooth formation and eruption)
- Family approach to prevention of caries, diet and nutrition
- Fluoride and sealants
- Anesthesia and pain control
- Radiology (techniques and interpretation)
- Pediatric operative dentistry
- Pulpal therapy in the primary dentition
- Child abuse and other safeguarding issues.

### 8.7.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions /Tutorials with Educational Advisor
- Supervised Practice
- Self-Directed Resources
  - Daniel Ninan. Dentistry and the Pregnant Patient. Quintessence Pub 1<sup>st</sup> Edition 2018
  - McDonald and Avery's Dentistry for the Child and Adolescent. Mosby 10<sup>th</sup> Edition 2015
  - Goran Koch (Editor), Sven Poulsen (Editor). Pediatric Dentistry: A Clinical Approach. Wiley-Blackwell. 2<sup>nd</sup> Edition 2009.

## 8.8 Year 1: Dental Materials

The science of dental materials is the study of the physical and chemical properties of the metallic and non-metallic materials used in dentistry. It includes methods of manipulation, influence of manipulative variables on the properties and the clinical significance of these basic properties. The biological characteristics will also be presented. The rationale for studying dental materials is to understand the behaviour of materials and to be able to handle them properly, assess, treat and educate the patient accordingly.

The loss of tooth structure presents the dental practitioner with a challenge. He or she must select a restorative material or combination of materials to restore the form, function and aesthetics of a tooth which has good long-term survival. In many cases, plastic filling materials such as amalgam, cement or composite will provide a durable restoration. In other instances, the dentist will need access to laboratory facilities to create a rigid component such as a crown, bridge, inlay, onlay or veneer which is then cemented in place. Good working knowledge of the indications for these materials is needed, along with the growing number of ancillary materials, which are now available to help achieve successful long-term restoration survival.

### 8.8.1 Competencies

On successful completion of this module, trainees will be able to:

1. Explain why no single material is suitable for all restorations.
2. Describe the different properties required for anterior and posterior restorations.
3. Explain the properties and appropriate selection of ceramic materials.
4. Describe the advantages and disadvantages of all ceramic versus metal ceramic restorations.
5. List the essential properties of materials used for fixed and removable partial dentures.
6. Select appropriate materials for instances where a large number of teeth or all teeth are missing from the dental arch.

### 8.8.2 Topics

- General properties of materials
- Preventive dental materials
- Direct aesthetic restorative materials
- Dental amalgam
- Finishing and polishing of materials
- Dental cements
- Impression materials
- Model and die materials
- Waxes
- Dental ceramics
- Plastics in prosthodontics.

### 8.8.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - McCabe JF and Walls AWG. Applied dental materials, 2009. 9<sup>th</sup> edition UK: Blackwell Munksgaard.

## 8.9 Year 1: Pain Management and TMD

Pain management is a key part of routine dental care. Differential diagnosis of pain in the oral cavity requires a structured diagnostic approach. It can be one of the most rewarding but also one of the most challenging aspects of general practice. The focus on neuroanatomy in this module aims to reinforce trainees current understanding of the nervous system's control of the muscles of the head and neck, and the regulation of the perception of pain.

The head and neck regions are also the most common sites of the human body to be involved in chronic pain conditions. A number of neuropathic pain conditions in the orofacial region are often misdiagnosed as pain of odontogenic origin which can lead to unnecessary dental treatment. The diagnosis of neuropathic pain requires careful attention to the patient history and the findings on physical examination.

Temporomandibular disorders (TMD) are commonly characterized by pain or tenderness of the temporomandibular joint and/or surrounding muscles, joint sounds and limitation or loss of jaw movement. There are many types of TMD, the signs and symptoms of which can overlap, making the diagnosis and management of patients' subject to confusion and controversy. TMDs are also far more prevalent than generally recognized and many myths and misconceptions surround the subject. These factors can lead to misdiagnosis and/or inappropriate treatment.

At the end of this module, the trainee must be able to clearly understand the mechanisms of pain and movement and be able to select appropriate treatment options for patients with orofacial pain based on sound scientific evidence.

### 8.9.1 Competencies

On successful completion of this module, trainees will be able to:

1. Complete a thorough history and assessment of a patient presenting with orofacial pain.
2. Describe the pathophysiology of chronic pain conditions.
3. Diagnose neuropathic pain and temporomandibular disorders.
4. Recognize the multiple views perspectives and approaches to orofacial pain management and TMD.
5. Recognize when to refer patients for specialist care and when a multidisciplinary team approach may be needed.

### 8.9.2 Topics

- Examination of the articulatory system and cranial nerves
- Assessment of a patient with non-odontogenic pain
- Current concepts and educational guidelines on orofacial pain
- Diagnosis and management of neuropathic pain and TMD
- Perception and behavioral modulation for managing pain
- Psychological issues related to chronic pain.

### 8.9.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Supervised Practice
- Self-Directed Resources
  - Baad-Hansen L, Benoliel R. Neuropathic orofacial pain: Facts and fiction. *Cephalalgia*. 2017 Jun;37(7):670-679
  - Spencer CJ. Dental procedures and neuropathic pain. *Gen Dent*. 2017 Nov-Dec;65(6):10-13
  - Khan M, Nishi SE, Hassan SN, Islam MA, Gan SH. Trigeminal Neuralgia, Glossopharyngeal Neuralgia, and Myofascial Pain Dysfunction Syndrome: An Update. *Pain Res Manag*. 2017;2017:7438326
  - Chatila N, Pereira B, Maarrawi J, Dallel R. Validation of a New Arabic Version of the Neuropathic Pain Diagnostic Questionnaire (DN4). *Pain Pract*. 2017 Jan;17(1):78-87
  - Ghurye S, McMillan R. Orofacial pain - an update on diagnosis and management. *Br Dent J*. 2017 Dec;223(9):639-647

- Raphael KG, Santiago V, Lobbezoo F. Is bruxism a disorder or a behaviour? Rethinking the international consensus on defining and grading of bruxism. *J Oral Rehabil.* 2016 Oct;43(10):791-8

## 8.10 Year 1: Radiology Rotation

The radiology rotation will give the trainee an opportunity to explore; alternative radiographic techniques to intra-oral radiography, their indications, risks and limitations. It will provide experience in the interpretation of head and neck images obtained using different imaging tools such as: CBCT, MRI, CT, Ultrasound and Nuclear Medicine modalities in a medical radiology clinical service.

**Duration:** 2 weeks.

### 8.10.1 Competencies

On successful completion of this module, trainees will be able to:

- Acquire, interpret, understand and appropriately apply imaging principles and clinical findings to select an imaging study most appropriate for each diagnostic task.
- Understand principles of image production.
- Recognize normal anatomical structures of the head and neck on imaging.
- Identify signs of abnormality or any deviation from normal imaging and refer appropriately.
- Be aware of the challenges in interpreting images of the oral and maxillofacial region.
- Acquire expertise in anatomic correlations of the head and neck using different imaging techniques other than routine intra- and extraoral radiography.

### 8.10.2 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Whaites, E. *Essentials of dental radiography and radiology.* Churchill Livingstone, 5<sup>th</sup> Edition 2013.
  - Guidelines on CBCT for Dental and Maxillofacial Radiology. SEDENTEXCT. [http://www.sedentexct.eu/files/radiation\\_protection\\_172.pdf](http://www.sedentexct.eu/files/radiation_protection_172.pdf)

## 8.11 Year 1: Family Medicine Rotation I

This module allows trainees to see the different ways that patients present with health issues and concerns in family medicine. It should also demonstrate the variety of disciplines involved in primary care and the role of the dentist in this team.

This module provides trainees with an opportunity to encounter common clinical problems seen in family medicine of relevance to dentistry. It allows them to appreciate the interdisciplinary nature of primary care and to undertake procedures commonly used in family medicine that are of relevance to dental practice.

**Duration:** 3 weeks

### 8.11.1 Competencies

On successful completion of this module, trainees will be able to:

1. Undertake a history of a patient with cardiovascular disease, respiratory disease, gastrointestinal or liver disease and a haematology or oncology condition.
2. Identify patients who may benefit from tests such as complete blood count (CBC), coagulation profiles, liver or renal function testing, or chest x-ray and interpret these results in patients seen in clinic.
3. Identify patients with implantable cardiac devices.
4. Take a blood pressure, heart rate and pulse oximeter reading.
5. Record an ECG and interpret the results.
6. Give an intramuscular injection, and establish an IV line.
7. Attend multidisciplinary team meetings (if available).

An electronic logbook will be used to ensure that the student has seen an appropriate range of conditions.

Prior to the rotations in year 1, the trainees will undertake a Medical Skills Workshop covering common procedures in primary care (details included in Appendix 3).

Students will also undertake a period of self-directed learning using online learning modules and formal teaching with an advisor during these sessions for case-based teaching. Each week they will meet with their advisor and present case histories to peers and tutors, objectively appraise case histories and elicit relevant additional information, consider and outline the initial management of the cases and discuss how these patients may be managed.

Students will also undertake a period of self-directed learning using online learning modules and formal teaching with an advisor during these sessions for case-based teaching. Each week they will meet with their advisor and:

- present case histories to peers and tutors
- objectively appraise case histories
- elicit relevant additional information
- consider and outline the initial management of the cases
- discuss how these patients may be managed in terms of
  - (a) possible dental issues related to the medical problem
  - (b) how they would approach dental issues in this patient group.

### 8.11.2 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Talley NJ & O Connor Stalley and O'Connor's Clinical Examination Elsevier
  - Rose LF and Kaye D; Internal Medicine for Dentistry, Mosby
  - Scully C; Medical Problems in Dentistry, Churchill Livingstone.

## 8.12 Year 2: Human Disease and Medical Implications in Dentistry Part II

### 8.12.1 Competencies

The competencies for this module are broken down into a number of specific areas. On successful completion of this module, trainees will be able to:

#### Skin Diseases

1. Undertake a history in patients with skin disease and ensure appropriate examination.
2. Be able to describe a skin rash.
3. Describe the impact of drugs used in skin disease on dental management.
4. Explain how occupational skin diseases can affect dental staff—irritant contact dermatitis, allergic contact dermatitis and latex allergy.

#### Kidney Disease

1. Undertake an appropriate history and oral examination for patients with chronic kidney disease.
2. List common causes of chronic kidney disease.
3. Identify common clinical features of chronic kidney disease.
4. Be aware of treatments used in chronic kidney disease—dialysis and renal transplant with immunosuppression.
5. Identify common complications of chronic kidney disease relevant to dental practice—renal osteodystrophy, anaemia, impaired haemostasis, infections and skin cancer due to immunosuppression.
6. Describe management considerations in someone with chronic kidney disease in terms of anaesthesia, prescribing and timing of treatment in relation to dialysis.
7. Interpret renal function tests.

#### Endocrine Disorders

1. List common endocrine disorders—diabetes mellitus, thyroid disease, hypo and hyperparathyroidism, acromegaly, diabetes insipidus.
2. Undertake an appropriate history and examination for someone with an endocrine disorder.
3. Describe how endocrine medications can affect dental practice including contraceptives and hormone replacement therapy.
4. Describe the effects of pregnancy on dental treatment and drug selection.
5. Cortisone therapy.

#### Musculoskeletal Disorders

1. Undertake an appropriate history to identify musculoskeletal conditions.
2. Describe how musculoskeletal disorders may influence dental management.
3. Describe how drugs used in musculoskeletal disorders may impact on dental management.

### Psychiatric Disorders

1. Describe common psychiatric disorders that may present in dental practice—anxiety, phobias, depression, psychotic illness, eating disorders, pain syndromes, somatization disorder, substance misuse, dementia and learning disability.
2. Describe how these may affect dental management and appropriate management strategies.
3. Describe how the dentist themselves can be affected by mental health disorders and how to approach this situation in practice.
4. Be aware of the issue of capacity to give consent in those with mental health disorders.

### Immunodeficiencies & Immunologically mediated disease

1. Describe the principles of immunodeficiency (including HIV), allergy and anaphylaxis and how they may present in dental practice.
2. Undertake a history of patients with features that may suggest an immunodeficiency or allergy.
3. Describe how to manage oral infections in the immunosuppressed patient.
4. List common immunosuppressants and their side-effects.

### Neurological Disorders

1. Describe neurological disorders relevant to dental practice—cerebral palsy, facial palsy, stroke, trigeminal neuralgia, post herpetic neuralgia, multiple sclerosis, motor neuron disease, epilepsy and Parkinsonism.
2. Undertake an appropriate history in patients with symptoms or established neurological diseases.
3. Undertake an appropriate examination in those with neurological disorders including assessment of the cranial nerves.
4. Describe management considerations in someone with neurological disease in terms of anaesthesia and sedation.
5. Describe the effects of drugs used in neurological conditions on dental conditions and vice versa.

#### 8.12.2 Educational Resources

- e-Learning Modules & Self-study
  - Skin disease
  - Metabolic and endocrine conditions (including chronic kidney disease)
  - Neurological and psychiatric conditions
  - Musculoskeletal disorders
  - Immunodeficiencies
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Talley NJ & O Connor S Talley and O'Connor's Clinical Examination Elsevier
  - Rose LF and Kaye D; Internal Medicine for Dentistry, Mosby
  - Scully C; Medical Problems in Dentistry, Churchill Livingstone.

## 8.13 Year 2: Minor Oral Surgery

This section builds on existing knowledge and newly acquired skills to introduce more complex minor oral surgery treatment options. It includes the management of surgical complications and unerupted teeth, and the management options available for the anxious patient undergoing minor oral surgery (MOS). It also provides an introduction to dento-alveolar trauma diagnosis and management. As such, trainees will be expected to develop their diagnostic skills, treatment planning, patient management and practical surgical techniques. All learning will be underpinned by rigorous appraisal of the evidence base, enabling them to be critically effective and reflective in their own practice.

### 8.13.1 Competencies

On successful completion of this module, trainees will be able to:

1. Perform simple extractions involving single and multi-rooted teeth.
2. Remove fractured roots and manage dry sockets and post extraction bleeding.
3. Manage dental infections with appropriate surgical and therapeutic approaches.
4. Assess traumatic injuries to the face and teeth.
5. Manage acute trauma to both primary and permanent dentitions using best practice principles for the various injury types and apply evidence-based recall and monitoring.

### 8.13.2 Topics

- Surgical principles and techniques for routine exodontia
- Local anaesthesia and post-surgical pain management
- Flap design and suturing techniques
- Minor soft tissue surgery
- Management of complications
- Dental trauma—primary and secondary dentitions

### 8.13.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Masterclass: Oral Surgery
- Supervised Practice
- Self-Directed Resources
  - Michael Miloro, GE Ghali, Peter Larsen, Peter Waite. Peterson's Principles of Oral & Maxillofacial Surgery. 2 Vol. Set. by PMPH-USA 3<sup>rd</sup> Edition 2011
  - James R. Hupp, Myron R. Tucker, Edward Ellis III. Contemporary Oral and Maxillofacial Surgery. Mosby; 6<sup>th</sup> Edition 2013.

## 8.14 Year 2: Oral Rehabilitation

This section aims to equip the family dentistry practitioner with an understanding and appreciation of the principles of effective evidence-based oral rehabilitation.

Tooth wear, often referred to as non-carious tooth surface loss (TSL) is a common clinical finding with an increase in prevalence with increased age. The difficulty in distinguishing the



clinical presentations and often multi-factorial nature can make diagnosis difficult. This module will cover evidence-based approaches for managing patients with severe tooth wear.

After completing this module, the trainee will also gain experience and management in the diagnosis, treatment planning, clinical care and coordination of fixed and removable prosthodontics as part of comprehensive care. Emphasis will be placed on preserving the remaining teeth and soft tissues as well as replacing missing oral structures.

### 8.14.1 Competencies

On successful completion of this module, trainees will be able to:

1. Undertake physical and psychological evaluation of patients requiring complex dental treatment.
2. Discuss the principles of occlusion for both dentulous and edentulous patients.
3. Obtain appropriate and accurate jaw relation records using an articulator and facebow.
4. Describe the reorganized approach to occlusion and when it is clinically indicated.
5. Design Kennedy Class I, II, III and IV removable partial dentures, resin partial dentures and dual-path partial dentures.
6. Fabricate satisfactory complete dentures for patients with varying jaw relations, and recognize the need for surgical intervention to improve the denture bearing foundations.
7. Be knowledgeable in basic laboratory procedures which support fixed prosthodontic care.
8. Competently design and prepare teeth for all types of cast and ceramic restorations which are functional, aesthetic and physiologically sound.
9. Provide sound provisional restorations and temporization maintaining a healthy, comfortable and stable environment for the teeth and soft issues while providing oral rehabilitation.
10. Be familiar with basic prosthodontic restorations involving implants.

### 8.14.2 Topics

- Assessment of patients with complex dental needs
- Basic principles of occlusion and oral rehabilitation
- Approaches for managing severe tooth surface loss
- Articulators and jaw relation records
- Principles of removable prosthodontics
- Partial denture design
- Principles of fixed prosthodontics
- Design and preparation of teeth for all types of cast and ceramic restorations in the aesthetic zone
- Provisional restorations and temporization
- Basic lab procedures for fixed and removable prosthesis
- Implant supported prosthesis
- CAD, CAM and new technologies.

### 8.14.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor

- Workshop: Oral Rehabilitation
- Supervised Practice
- Self-Directed Resources
  - Mehta SB, Banerji S, Millar BJ and Suarez-Feito JM. Current concepts on the management of tooth wear: part 1. Assessment, treatment planning and strategies for the prevention and the passive management of tooth wear. *British Dental Journal* 2012 212: 17-27
  - Davies S. Conformative, re-organized or unorganized? *Dental Update* 2004; 31(6): 334-345.
  - Davenport JC, Basker RM, Heath JR. *Clinical guide to removable partial denture design*. BDJ Books 2000.

## 8.15 Year 2: Frail Elderly

Over recent decades, we have witnessed a worldwide phenomenon characterized by major demographic changes. Among those, the aging population poses a major challenge to modern dentistry, both due to its consistent increase, but also because it is redefining the concept of aging.

The learning goal for this module is to ensure learners are competent in the diagnosis and treatment of frailty. They will recognize how it relates to co-morbid conditions in elderly patients who present to them in a clinical setting, and have an appreciation of the broader context in which care for elderly patients takes place.

Trainees are expected to acquire the knowledge and skills needed to provide comprehensive management of elderly patients. They will learn to assess those with and without chronic diseases, and other medical conditions, that might require a multidisciplinary approach through interprofessional care. Family Dental Practitioners will be expected to be working in interprofessional settings.

### 8.15.1 Competencies

On successful completion of this module, trainees will be able to:

1. Recognize frailty in elderly patients.
2. Describe the concepts and tools used for conducting a Comprehensive Geriatric Assessment (CGA).
3. Identify the appropriate uses, advantages and potential pitfalls of various tests of cognitive assessments
4. Use a Mini-Mental State Examination (MMSE) to screen patients for cognitive impairment.
5. Describe all the factors that need to be considered while planning care for the elderly.
6. Outline the principles of prescribing medication for the elderly (polypharmacy; prescription cascade)
7. Explain how to create an individualized care plan for an elderly patient using inputs from other healthcare professionals.
8. Understand how the Activities of Daily Living factor into an assessment of frail elderly.
9. Perform a focused oral health assessment for a frail patient.

### 8.15.2 Topics

In order to achieve the module's aims, trainees will be expected to address the following topics:

- Demographics and epidemiology
- Degenerative disorders, such as dementia and Parkinson's disease
- Prescribing considerations for the older adult patient
- Connections between oral health and quality of life
- Elder abuse issues and principles for safeguarding
- Special considerations and adjustment of treatment programs, namely community geriodontology and mobile geriatric dentistry.

### 8.15.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Supervised Practice
- Self-Directed Resources
  - James W. Little, Craig Miller, Nelson L. Rhodus. Little and Falace's Dental Management of the Medically Compromised Patient. Mosby; 9<sup>th</sup> Edition 2017
  - Scully's Medical Problems in Dentistry. Churchill Livingstone; 7<sup>th</sup> Edition 2014
  - Poul Holm-Pedersen (Editor), Angus W. G. Walls (Editor), Jonathan A. Ship (Editor). Textbook of Geriatric Dentistry. Wiley-Blackwell; 3<sup>rd</sup> Edition 2015
  - Paula K. Friedman. Geriatric Dentistry: Caring for Our Aging Population. Wiley-Blackwell; 1<sup>st</sup> Edition 2014.

## 8.16 Year 2: Clinical Pharmacology

Clinical pharmacology plays an important role in the education, and future practice, of the trainees due to:

- regular administration of local anesthetics and prescription of analgesics and antibiotics
- older patients, who are increasingly associated with polypharmacy, making knowledge of drug interactions and adverse effects that cause dental problems central to daily practice
- an increased use of psychotropic drugs in the younger population, some of which affect oral hygiene, either directly or indirectly through behavioral effects
- nutritional and herbal medicines which have been demonstrated to affect drugs sensitive to interactions (e.g. warfarin).

### 8.16.1 Competencies

On successful completion of this module, trainees will be able to:

1. Describe the mechanism of action of local anesthetics, the factors that affect their onset and duration of action, and the common complications associated with their administration.
2. List common analgesics currently used in dentistry.
3. Explain the various adverse effects and drug interactions relevant to dentistry.
4. Apply a rational use of anti-infective agents in dentistry from two perspectives; the management of existing orofacial infections and for prophylaxis against the development of bacterial endocarditis or other infection post treatment.
5. Analyze and identify drug interactions to avoid adverse effects.
6. Access updated information on drug interactions.

### 8.16.2 Topics

In order to achieve the module's aims, trainees will be expected to address the following topics:

- Overview of the pharmacology of the drug groups use in cardiovascular diseases (antiarrhythmics, diuretics, antianginal, heart failure treatment, anti-hypertensives)
- Anesthetics: local anesthetic; general and sedation techniques
- Overview of psychopharmacology
- Analgesics: NSAID, opioid drug therapies, management of acute dental pain, the opioid prescribing crisis
- Antibiotic therapies and management of acute dental infections
- Complementary and alternative medicines and implications for dental practice
- Common adverse drug interactions
- Common drug-drug interactions in dental practice.

### 8.16.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Frank J. Dowd, Bart Johnson, Angelo Mariotti. Pharmacology and Therapeutics for Dentistry. 7<sup>th</sup> Edition. Mosby. 2016
  - American Dental Association, Jay Elkareh. ADA Dental Drug Handbook: A Quick Reference (Practical Guide). 1<sup>st</sup> Edition. American Dental Association. 2018.

## 8.17 Year 2: Behavioral Sciences, Special Needs Patients and Pregnancy

The need for psychological interventions in dentistry is now supported by guidelines. Direction is also given on the importance of providing the necessary psychological guidance and expertise in terms of treatment planning and clinical decision-making (General Dental Council, 1990; British Psychological Society, 1996). The potential of the patient and the dental team to improve or maintain the patient's quality of life and to reduce morbidity associated with oral and dental disease has also been examined by the NICE Guidelines on Dental Recall (2004). These points take account of the impact of dental checks on: patients' well-being, general health and preventive habits; caries incidence and avoiding restorations; periodontal health and avoiding tooth loss; and avoiding pain and anxiety.

Hence, social and behavioral sciences provide a critical insight into the determinants of behaviour and how these can be modified.

Addressing the anxiety experienced by a significant proportion of patients in the general population has benefits. It could increase attendance rates, improve patients' dental and oral health, and ultimately reduce the use of secondary care services and associated costs.

### 8.17.1 Competencies

On successful completion of this module, trainees will be able to:

1. Apply appropriate techniques to reduce distress associated with dental treatment.
2. Promote the uptake of necessary dental care.
3. Identify and incorporate the factors (medical, social, psychological and environmental) that impact on risk assessment and treatment planning for individual patients requiring special care).
4. Use behavioral and pharmacological approaches that facilitate dental treatment for individual patients requiring special care dentistry (according to local guidelines and protocols).
5. Design oral health education for individual patients including pregnant women and their caregivers.
6. Provide simple clinical treatment using appropriate facilitation techniques for patients requiring special care, likely to present to a primary care service.
7. Take responsibility for referring or arranging care for patients with more complex needs.

### 8.17.2 Topics

In order to achieve the module's aims, trainees will be expected to address the following topics:

- Stress reducing techniques for dental practice
- Social and self-perception
- Social and self-awareness
- Learning and thinking
- Motivation and emotion
- Oral Health Education
- Personality and individuality
- Adjustment and mental health, and social behavior.

### 8.17.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Supervised Practice
- Self-Directed Resources
  - Gerald M Humphris, Margaret Ling. Behavioral Sciences for Dentistry. Churchill Livingstone; 1<sup>st</sup> Edition 2000
  - Sacha Scambler, Suzanne E. Scott and Koula Asmakopoulou. Sociology and psychology for the dental team. Polity; 1<sup>st</sup> Edition 2016
  - William Ayer Jr. Psychology and Dentistry: Mental Health Aspects of Patient Care. Routledge; 1<sup>st</sup> Edition 2005
  - Scully's Medical Problems in Dentistry. Churchill Livingstone; 7<sup>th</sup> Edition 2014.

## 8.18 Year 2: Orthodontics

Orthodontics is concerned with facial growth, development of the dentition and occlusion. The main indications for orthodontic treatment are to improve oral function, aesthetics and general dental health. Within this module the benefits of orthodontic treatment will be considered, to reduce the negative impact that a malocclusion has on dental health, and for the psychosocial well-being of patients.

The focus will be on patient assessment and on understanding appropriate timing of orthodontic treatment. It will consider the various types of orthodontic treatment, success rates and indications for referral to specialist care.

This module aims to equip trainees with an understanding and appreciation of the foundations of effective, evidence-based growth analysis, preventive and interceptive habit correction and the principles of functional appliances. The trainee must also be competent at; (1) managing emergencies during orthodontic treatment performed by an orthodontist and (2) assisting with effective prevention and plaque control strategies.

### 8.18.1 Competencies

On successful completion of this module, trainees will be able to:

1. Recognize and diagnose a malocclusion in both children and adults.
2. Differentiate between malocclusions of varying complexity.
3. Recognize the adverse effect of certain malocclusions.
4. Explain the indications and limitations of removable appliances
5. Diagnose and categorize dentofacial deformities according to the urgency index and refer for treatment.
6. Manage orthodontic emergencies such broken brackets, retainers and extended arch wire.
7. Recognize the role orthodontics can play in rehabilitation of patients with complex restorative needs.

### 8.18.2 Topics

- Growth and development of occlusion and malocclusion
- Assessment of orthodontic treatment need
- Clinical management of patients undergoing orthodontic therapy (including plaque control and caries prevention)
- Current principles and stages of orthodontic interventions (fixed/ removable and aligners)
- Orthodontic retention
- Orthodontic emergencies
- Orthodontic referral and timing
- Orthodontics in complex rehabilitation
- Sleep apnoea.

### 8.18.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Masterclass: Orthodontics (See Appendix 4 for details)
- Supervised Practice

- Self-Directed Resources
  - Reddy S, Derringer KA, Rennie L. Orthodontic referrals: why do GDPs get it wrong? Br Dent J. 2016 Nov 4;221(9):583-587
  - Dowsing P, Murray A, Sandler J. Emergencies in orthodontics. Part 1: Management of general orthodontic problems as well as common problems with fixed appliances. Dent Update. 2015 Mar;42(2):131-4, 137-40
  - Dowsing P, Murray A, Sandler J. Emergencies in orthodontics part 2: management of removable appliances, functional appliances and other adjuncts to orthodontic treatment. Dent Update. 2015 Apr;42(3):221-4, 227-8.

## 8.19 Year 2: Chemical Dependence

Many chemicals and drugs can stimulate the central nervous system or cause depression and hallucinations. Some may even distort perception, thinking or judgement. Abuse of such drugs is common and increasing and presents management difficulties in dentistry. Identifying the chemically dependent patient can at times be difficult but a careful history and examination may help.

### 8.19.1 Competencies

On successful completion of this module, trainees will be able to:

1. Differentiate between a social user, substance abuser and addict.
2. Describe the four stages of substance abuse.
3. Explain the differences between physical and psychological dependence.
4. Identify the various sources of nicotine (including latest research on e-cigarettes)
5. Recognize various oral conditions that may be present with chronic nicotine, alcohol, prescription medication and/or illegal drug use.
6. List commonly abused prescription and illegal drugs.
7. Identify various clinician/patient communication strategies for various addictions.
8. Use resources to support patients who are interested in cessation.

### 8.19.2 Topics

- Alcohol and detection of alcoholism
- Complications of alcoholism and foetal alcohol syndrome
- Dental aspects of alcoholism
- Nicotine, tobacco and e-cigarettes
- Dental aspects of smoking and smokeless tobacco
- Benzodiazepines
- Barbiturates and dental aspects of barbiturate abuse
- Opioids (narcotics)—detection of abuse
- Dental aspects of opioid dependence and complications of abuse
- Amphetamines
- Cocaine and dental aspects of addiction
- Psychedelic drugs (Cannabis; LSD; PCP; Ketamine)
- Anaesthetic abuse
- Anabolic steroids.

### 8.19.3 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor
- Self-Directed Resources
  - Kaiser, K. 2015. The Importance of Oral Health in Treatment Outcomes for the Chemically Dependent Population. *J Alcohol Drug Depend* 3:204
  - Crail, J. et al. 2010. Role and models for compensation of tobacco use prevention and cessation by oral health professionals. *Int Dent J*. Vol 60(1):73–80
  - Titsas, A. and Ferguson, MM. 2002. Impact of opioid use on dentistry. *Aust Dent J*;47(2): 94–8.

## 8.20 Year 2: Practice Management, Quality and Risk Management

The business aspects of dental practice have changed a great deal in recent years. Growing business requirements and patient's expectations exert an increasing influence on all aspects of dentistry. Within this module, trainees will be introduced to the key concepts of practice management, including staff training, team development, communication, marketing and finance.

It is important to conceptualize and formulate the trainee's role within the family practice and ensure appropriate engagement and communication with fellow team members. Furthermore, it is important to develop a critical awareness of service users' perceptions of healthcare quality and conceptualize this within one's own practice. The trainee will be required to appraise applications of quality and risk management in the context of their area of practice and to draw conclusions on how the practice can be improved. Topics included and method of delivery are presented in (Appendix 3).

### 8.20.1 Competencies

On successful completion of this module, trainees will be able to:

1. Evaluate current trends in practice management.
2. Recognize the importance of teamwork within dentistry and how to improve their conceptualization and practice of teamwork.
3. Appraise applications of quality and risk management systems in the context of their area of practice to draw conclusions on how practice can be improved.
4. Critically analyze and evaluate recent healthcare risk management, quality and patient safety literature.

### 8.20.2 Topics

- Reflecting on evolving trends
- Evaluating priorities
- Team work
- Project management
- Lifelong learning and reflection
- Risk assessment
- Implementing quality approaches
- Reflecting on multiple views and perspectives.



### 8.20.3 Educational Resources

- Self-study
- Group Discussions/Tutorials with Educational Advisor
- Masterclass: Practice Management, Quality and Risk Management (See Appendix 4 for details)
- Self-Directed Resources
  - BMJ Quality & Safety - <https://qualitysafety.bmj.com/>
  - International Journal of Health Care Quality Assurance - <https://www.emeraldinsight.com/loi/ijhcqa>
  - Journal of Quality in Clinical Practice - <https://onlinelibrary.wiley.com/journal/14401762>
  - Journal of Quality Management - <https://www.sciencedirect.com/journal/journal-of-quality-management>
  - Quality Management in Healthcare - <https://journals.lww.com/qmhcjournal/pages/default.aspx>

## 8.21 Year 2: Social Determinants of Health and Global Health

The FDI (Federation Dentaire Internationale) World Dental Federation have adopted a new definition of oral health, which now encompasses the dynamics of; genetic and biological factors, social environment, physical environment, health behaviors and access to care. It also includes elements that modify oral health including age, culture, income, experience, expectations, and adaptability.

Trainees will be provided with a global approach to the epidemiological framework and structural determinants and conditions that contextualize the systemic and structural challenges that patients may face in addressing their health goals (e.g. income, race/ethnicity, education level, living in an urban or rural environment, social policy, and access to health care).

### 8.21.1 Competencies

On successful completion of this module, trainees will be able to:

1. Describe the global burden of disease and oral diseases and conditions: prevalence, distribution, associated risk factors, and the relationship between oral disease, population trends, and global disease patterns.
2. Analyze how global oral health care impacts their respective populations and vice-versa.
3. Demonstrate the oral health practitioners' role in interdisciplinary collaboration regarding global health policy and practice.
4. Assess the impact of social determinants such as workforce, financing mechanisms, and service delivery in the provision of specific oral healthcare.
5. Advocate for oral health to be integrated into global disease prevention and primary care.
6. Demonstrate cultural competence regarding oral health services and interactions with global health systems.

### 8.21.2 Topics

- Global burden of oral disease
- Dentistry's role in global health policy
- Social determinants of disease
- Oral health promotion
- Oral healthcare systems and interactions.

### 8.21.3 Educational Resources

- Self-study
- Group Discussions/Tutorials with Educational Advisor
- Masterclass: Social Determinants of Health and Global Health (See Appendix 4 for details)
- Self-Directed Resources
  - Babulal Sethia, Parveen Kumar. Essentials of Global Health. 1<sup>st</sup> Edition. Elsevier 2018
  - Michael Marmot, Richard G Wilkinson, ed. Social Determinants of Health. Second edition. Edited by Marmot M, Wilkinson RG. Oxford: Oxford University Press 2007
  - WHO Social Determinants of Health - [http://www.who.int/social\\_determinants/en](http://www.who.int/social_determinants/en)

## 8.22 Year 2: Family Medicine Rotation II

This module builds on the learning and experience gained in the Family Medicine rotation in year 1.

**Duration:** 3 weeks

### 8.22.1 Competencies

On successful completion of this module, trainees will be able to:

1. Provide trainees with an opportunity to encounter common clinical problems seen in Family Medicine and Internal Medicine of relevance to dentistry.
2. Provide trainees with an opportunity to appreciate the interdisciplinary nature of primary care and how dentistry works within this.

In year 2, they should apply the knowledge and skills learned in their e-learning modules.

At a minimum, this would involve being able to:

1. Undertake a history of a patient with medical problems
2. Use a glucometer, record blood pressure and be able to interpret the results
3. Describe how dental treatment would need to be adjusted for medical conditions seen during their rotation
4. Attend multidisciplinary team meetings (if available).

An electronic logbook will be used to ensure that the student has seen an appropriate range of conditions.

### 8.22.2 Educational Resources

- e-Learning Modules & Self-study
- Group Discussions/Tutorials with Educational Advisor

- Self-Directed Resources
  - Talley NJ & O Connor Stalley and O'Connor's Clinical Examination Elsevier
  - Rose LF and Kaye D; Internal Medicine for Dentistry, Mosby
  - Scully C; Medical Problems in Dentistry, Churchill Livingstone.

## 8.23 Year 2: Internal Medicine Rotation

This rotation will give the trainee further in depth knowledge of management of patients in a hospital setting. The medical care for in-patients will expose the trainee to a wide range of medical conditions and provide a different perspective on patient care and management. During this rotation, the trainee will be at the department of Internal Medicine.

### 8.23.1 Competencies

On successful completion of this rotation, trainee will be able to:

1. To take a comprehensive history and accurate recording in the clinical notes.
2. Perform a physical examination including a chest examination, listening to heart sounds, abdominal examination and evaluate the overall status of the patient.
3. Request and interpret the necessary tests, including blood tests (liver function tests, renal function tests, complete blood count, electrolytes, coagulation profile and lipid profile.
4. Request radiographical views and ECG recording.
5. Review patient medication and understand the mode of action of each drug.
6. Present the case to a supervisor and reach a differential diagnosis.
7. Discuss the case with a supervisor to formulate a treatment plan. During treatment the trainee should be able to understand all prescribed medications and balance the patient's IV fluid.
8. Discharge the patient from the hospital, give necessary instructions and follow up under supervision.

### 8.23.2 Educational Resources

- The Massachusetts General Hospital Handbook of Internal Medicine.  
Part of the Pocket Handbook Series: Pocket Medicine: Sixth Edition by Marc S. Sabatine.

## 9. Assessment Strategy

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The assessment strategy will include both formative and summative assessment. Each module and its associated competencies will be assessed during the diploma. This is followed by a formal written and clinical exam, administered by the SCFHS, at the end of the two years.

Overall, comprehensive assessment processes will be used, including presentations, multiple choice questions, and short answer questions. Knowledge, skills and behaviors will also be assessed using Objective Structured Clinical Examinations (OSCEs) and Work-place Based Assessments (WBAs) such as: Case Based Discussions (CBDs), Clinical Evaluations (CEX), and

Direct Observation of Clinical Skills (DOPS). It is essential trainees can demonstrate that they are able to communicate effectively too.

## 9.1 Formative Assessment & Evaluation

Formative Assessment & Evaluation will measure both knowledge attainment and achievement of clinical competency through a variety of methods.

Tool	What is assessed	Methodology	Requirement
Directly Observed Procedural Skills (DOPS)	Ability to safely and appropriately carry out specific procedures, as listed below.	DOPS evaluation form to be completed online by a Supervisor/Topic Specialist for each procedure observed.	Requirements vary across the modules. Submission of all listed DOPS mandatory.
Mini-CEX	History taking, patient examination, data interpretation, diagnosis, treatment planning and sequencing.	Short clinical encounters observed by a supervisor.  Supervisor/Topic Specialists must complete the online evaluation form for each observed encounter.	Requirements vary across the modules. Submission of all listed Mini-CEX mandatory.
Case-Based Discussions	Case complexity, the application of knowledge, use of ethical frameworks, an ability to prioritize options, consider implications and justify decisions.	A structured discussion which aims to explore professional judgement exercised in clinical cases.	Requirements vary across the modules. Completion of CBDs as detailed below.

Tool	What is assessed	Methodology	Requirement
Structured Case Report	Clinical approach across a wide variety of conditions, with an emphasis on learning points.	A structured written report of no more than 600 words about a particular clinical case. This must include trainee reflection on particular learning points or lessons from the case, followed by one to one discussion with the Program Director/ Educational Advisor. In the case of the medical modules, these cases should highlight the medical conditions, how they were managed and how this would impact on dental management.	Requirements vary across the modules. Submission of all listed case reports mandatory.
End of Module Quiz	Knowledge of topic area	Online quiz administered at the end of e-learning modules (or group of modules)	Must achieve a minimum of 80 per cent to pass.

Note: the e-Portfolio has not been listed as a separate item above as it represents the collection of all activities completed via the online learning platform.

These assessment methods are linked to the curriculum and are based on the assumption that each trainee is working in a dental clinic while he/she is undertaking this diploma. These types of assessment generally require trainees to apply what they have learned in the specific context of the unit in which they are working.

The performance of the trainee is assessed by a designated clinical supervisor. The supervisor must certify all practical trainee activities by completing the appropriate evaluation and providing feedback to the trainee on the online learning platform. The trainee should also receive verbal feedback on their performance throughout the diploma.

## 9.2 Summary of Workplace Assessments Required

The following table summarizes the various evaluations required during the two years. Evidence of these evaluations must be recorded on the online learning platform.

Topics	DOPS	Mini-CEX	Case-Based Discussions	Structured Case Reports	End of Module Quiz	ITER
Human Disease and Medical Implications in Dentistry I					✓	
Oral Diagnosis, Oral Medicine and Dental Radiology			3		✓	
Medical Emergencies in Dentistry					✓	
Restorative Dentistry	3	2	3	✓	✓	
Endodontics	3		3		✓	
Periodontology & Implant Principles	3		2	✓	✓	
Pediatric Dentistry	2	1	2	✓	✓	
Dental Materials					✓	
Pain Management and TMD			1		✓	
Radiology Rotation					✓	1
Family Medicine Rotation I	3			✓		1
Human Disease and Medical Implications II					✓	
Minor Oral Surgery	2		2		✓	
Oral Rehabilitation	1		3	✓	✓	
Clinical Pharmacology					✓	
Frail Elderly		1			✓	
Behavioral Sciences, Special Needs Patients and Pregnancy		2	2	✓	✓	
Orthodontics			2		✓	
Chemical Dependence					✓	
Practice Management, Quality & Risk Management					✓	
Social Determinants of Health & Global Health					✓	
Family Medicine Rotation II				✓		1
Internal Medicine Rotation						1

## 9.3 Summary of Evaluations Required

The following tables summarize the list of procedures that require evaluation during the two years.

### 9.3.1 Directly Observed Procedural Skill (DOPS)

Module	Directly Observed Procedural Skill (DOPS)
Restorative Dentistry	<ul style="list-style-type: none"> <li>• Aesthetic restoration of an anterior tooth (Class IV)</li> <li>• Two surface composite restoration (Class II)</li> <li>• Restoration of an endodontically treated tooth</li> </ul>
Endodontics	<ul style="list-style-type: none"> <li>• Endodontic treatment of an anterior tooth</li> <li>• Endodontic treatment of first molar</li> <li>• Retreatment of a failed root canal therapy</li> </ul>
Periodontology and Implant Principles	<ul style="list-style-type: none"> <li>• Periodontal charting and diagnosis</li> <li>• Root surface debridement under local anaesthesia</li> <li>• Reassessment of a non-surgical case</li> </ul>
Pediatric Dentistry	<ul style="list-style-type: none"> <li>• Restorative or endodontic procedure (age group 9-12 years)</li> <li>• Endodontic procedure (age group 9-12 years)</li> </ul>
Minor oral surgery	<ul style="list-style-type: none"> <li>• Extraction of a molar (routine)</li> <li>• Management of a dry socket (or other surgical complication)</li> </ul>
Oral Rehabilitation	<ul style="list-style-type: none"> <li>• Occlusal analysis (jaw relation records)</li> </ul>
Family Medicine	<ul style="list-style-type: none"> <li>• Taking of vital signs (blood pressure, pulse, body temperature)</li> <li>• Measurement and interpretation of BMI</li> <li>• Provision of an intramuscular injection</li> <li>• Teaching a patient how to use an inhaler</li> <li>• Measurement and interpretation of blood glucose using a glucometer</li> <li>• Insertion of an intravenous line</li> <li>• Deliver oxygen via a mask</li> <li>• Physical Examination including Heart sounds and interpretation</li> <li>• Chest; Abdomen; CBC; HbA1C; Thyroid; Liver Function and Renal Test</li> </ul>

### 9.3.2 Mini-CEX

Module	Mini-CEX
Restorative Dentistry	<ul style="list-style-type: none"> <li>• Behaviour change</li> <li>• Smoking cessation, diet assessment, oral hygiene</li> </ul>
Pediatric Dentistry	<ul style="list-style-type: none"> <li>• Behavioral management of an uncooperative child</li> </ul>
Frail Elderly	<ul style="list-style-type: none"> <li>• Communication and clinical management of an elderly patient</li> </ul>
Behavioral Sciences, Special Needs Patients and Pregnancy	<ul style="list-style-type: none"> <li>• Completion of a dental procedure for patient who is medically compromised, showing an understanding of underlying systemic disease</li> <li>• Demonstration of understanding of psychosocial behaviour of a patient with special needs</li> </ul>

### 9.3.3 Case-Based Discussions

Module	Case Based Discussions
Oral Diagnosis, Oral Medicine & Dental Radiology	<ul style="list-style-type: none"> <li>• Patient assessment</li> <li>• Radiographic interpretation (caries and periodontitis)</li> <li>• Oral mucosal disease</li> </ul>
Restorative Dentistry	<ul style="list-style-type: none"> <li>• Diagnosis of initial lesions according to ORCAS and ICDAS (risk assessment)</li> <li>• Esthetic treatment of an anterior tooth (focus on colour and shade)</li> <li>• Complex treatment planning case</li> </ul>
Endodontics	<ul style="list-style-type: none"> <li>• Complexity assessment</li> <li>• Retreatment</li> <li>• Fractured instrument</li> </ul>
Periodontology and Implant Principles	<ul style="list-style-type: none"> <li>• Non-surgical (diabetic patient) periodontitis</li> <li>• Peri-implantitis case</li> </ul>
Pediatric Dentistry	<ul style="list-style-type: none"> <li>• Two cases on an integral family approach to oral care</li> </ul>
Pain Management and TMD	<ul style="list-style-type: none"> <li>• Suspected neuropathic pain</li> </ul>
Minor Oral Surgery	<ul style="list-style-type: none"> <li>• ID nerve proximity (molar extraction)</li> <li>• Bisphosphonates</li> </ul>
Oral Rehabilitation	<ul style="list-style-type: none"> <li>• Fixed prosthodontics</li> <li>• Removable prosthodontics</li> <li>• Tooth wear</li> </ul>



Module	Case Based Discussions
Behavioral Sciences, Special Needs Patients and Pregnancy	<ul style="list-style-type: none"> <li>• Two cases</li> </ul>
Orthodontics	<ul style="list-style-type: none"> <li>• Ortho assessment</li> <li>• Habit correction</li> </ul>

## 9.4 Summary of Structured Case Reports Required

Structured case reports must be submitted to the Program Director at the end of each year. The Program Director will in turn share these with the evaluation panel, who will independently review the cases prior to allowing the trainee to sit the final examination.

Three structured case reports must be submitted in any of the following areas:

- Pediatric Dentistry
- Restorative Dentistry
- Behavioral Sciences, Special Need Patients and Pregnancy
- Periodontology and Implant Principles
- Oral Rehabilitation

See requirements in Appendix 7

In addition, one comprehensive and three shorter case reports should be submitted each year, during or shortly after the Family Medicine Rotations:

- One long case report which, demonstrates how the patient was managed and how their condition would impact on their dental treatment. This would also involve looking at aspects in detail such as how the multidisciplinary team worked together and challenging social and ethical considerations that may arise.
- Three short case reports. These cases should highlight; the medical conditions, how they were managed, how this would impact on dental management and what considerations the trainee would have if the patient presented for dental treatment. A sample template for these short case reports should include:
  - Patient age and gender
  - Main presenting illness
  - Relevant history
  - Relevant physical signs
  - How was the patient diagnosed with the illness?
  - What other medical specialties and allied health professionals are involved in their care?
  - Current medical/surgical management
  - What are the priorities for the future care of this person?

- How would their condition affect how you would approach them in a dental clinic? In terms of:
  - i. Oral conditions they may be more likely to develop
  - ii. How their illness(es) may impact your approach to dental treatment

## 9.5 In-Training Evaluation Report (ITER)

An ITER must be completed by the relevant supervisor at the end of each of the rotations within the program.

## 9.6 Evaluation by Educational Advisor

Educational Advisors are required to complete a summary evaluation report for their trainees on an annual basis. This report should include the below and should be discussed in person with the trainee.

- Review of Mini-CEX, DOPS & case reports completed during the period
- Review of e-learning modules completed
- provided feedback on trainee contribution in topic and cases discussion during tutorials
- Highlighting areas of concern or areas of priority for the trainee in the next period

Although all assessment activity is not part of the final grade, these activities are still mandatory and must be completed in order to progress from one year to another and successfully complete the program.

## 9.7 Summative Assessment

The SCFHS will administer an unseen examination at the end of the two years. This will consist of a written exam in the form of MCQs and an OSCE exam to demonstrate clinical expertise. Exams are prepared and administered according to SPD rules and regulations.

Tool	What is assessed	Methodology	Passing Grade
Final Written Examination	Knowledge of key topic areas.	Formal supervised written exam administered by the SCFHS (150 – 200 MCQ questions).	60%
Final Clinical Examination	Clinical skill performance and competence.	Will consist of 12 OSCE stations of 5-15 minutes each. 8 stations dedicated to Medically Compromised Cases.	MPL

Trainees must pass both elements of the final exam independently.

## 9.8 Eligibility requirement for the final examination

The continuous assessment evaluations built into the curriculum form an integral part of this innovative diploma program. They will be periodically reviewed to provide useful feedback to the candidate on improvement and progress. Through them, the examinee will gain confidence in the knowledge that his/her goals and objectives have been successfully met.

There are four main requirements needed for a candidate to be eligible for the final examination:

1. A submission of approval from the Program Director certifying that the candidate has successfully completed two years of training.
2. Evidence submitted by the Program Director that all clinical requirements have been satisfactorily completed (Appendix 6).
3. The candidate must have completed all mandated educational activities in the program (e-modules, masterclasses, simulation workshops) and all required formative assessments e.g., DOPS, Mini-CEX and structured case reports.
4. Submission of three comprehensive “Total Patient Care” cases (Appendix 7). The reviewing committee appointed by the SCFHS must approve these cases.

## 9.9 Certification

On successful completion of all elements of the diploma, including formative assessment and summative assessment, trainees will receive the SPD in Family Dental Medicine from the SCFHS in recognition of their achievement.

# 10. Program Management

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The diploma will have a Program Director in each accredited facility who will; oversee all day-to-day program management, ensure its correct implementation, and respond to trainee concerns. See Appendix 2 for a breakdown of recommended roles and responsibilities.

# 11. Quality Assurance

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Quality assurance is an essential part of best practice. In terms of healthcare delivery, an effective program demonstrates a mark of quality and quality assurance. All quality assurance activities prescribed by the SCFHS rules and regulation and SPD bylaws should be adhered to in the delivery of this diploma.

## Appendix I: Evaluation Forms

Evaluation forms will be captured via the online learning platform and will be consistent with the same evaluation forms used on other programs (DOPS, CBC & Mini-CEX).

Rubrics are shown in the following pages.

### Mini-CEX

Criteria	Ratings					Points
Complexity of case	3 Points High		2 Points Average		1 Point Low	3.0 points
CEX1 Medical interview skills threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX2 Physical examination skills threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX3 Counselling and communications skills threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX4 Clinical judgement threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX5 Professionalism threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX6 Organization/ efficiency threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CEX7 Overall clinical competence threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
Which aspects of the encounter were done well? Use comment box.	0.0 Points Feedback		0.0 Points Feedback			0.0 points
Suggested areas for improvement/development? Use comment box.	0.0 Points Feedback		0.0 Points Feedback			0.0 points
Agreed actions/learning plan Use comment box.	0.0 Points Feedback		0.0 Points Feedback			0.0 points
Total points: 31.0						

## Clinical-Based Discussion

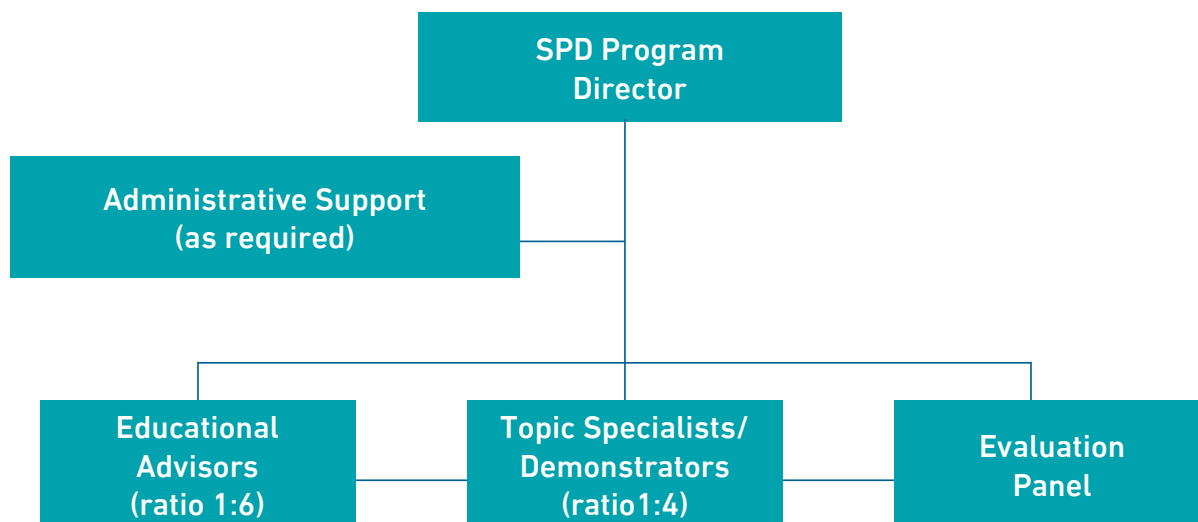
Criteria	Ratings					Points
Time Allocation Enter the amount of time you spent on this activity in the comment box.	0.0 Points Comment		0.0 Points Comment			0.0 points
Complexity of Case	3 Points High	2 Points Medium	1 Point Low			3.0 points
CBD1 Clinical assessment threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CBD2 Investigation and referrals threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CBD3 Management threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CBD4 Follow-up and future planning threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CBD5 Overall clinical judgement threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
CBD6 Organization threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
What are the positive things in this CBD? Use comment box.	0.0 Points Comment		0.0 Points Comment			0.0 points
Suggested areas for improvement / development Use comment box.	0.0 Points Comment		0.0 Points Comment			0.0 points
Agreed actions / learning plan Use comment box.	0.0 Points Comment		0.0 Points Comment			0.0 points
Total points: 27.0						

## DOPS

Criteria	Ratings					Points
Patient Type	3 Points a Real Patient		2 Points b Standardized Patient		1 Point c Simulator	3.0 points
Complexity of Procedure	3 Points a High		2 Points b Average		1 Point c Low	3.0 points
DOPS1 Professional approach threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS2 Knowledge threshold: 3.0 points	4.0 Point Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS3 Demonstrate appropriate pre-procedure preparation threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS4 Appropriate analgesia or/and sedation threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS5 Technical ability threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS6 Aseptic technique threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS7 Post procedure management threshold: 3.0 points	4.0 Points Above Expectations	3.0 Points Meets Expectations	2.0 Points Borderline	1.0 Points Below Expectations	0.0 Points N/A	4.0 points
DOPS8 Overall ability to perform procedure threshold: 3.0 points	3.0 Points Competent to perform unsupervised		2.0 Points May need supervision if complications arise		1.0 Points Needs more practice	3.0 points
Did you meet with resident to discuss their performance?  Answer in comment box.	0.0 Points Comment		0.0 Points Comment			0.0 points
Total points: 37.0						

## Appendix 2: Program Delivery Roles

To enable successful delivery of the SPD in Family Dental Medicine, a number of key roles with specific responsibilities are required.



### Program Director (PD)

The SPD Family Dental Medicine Program Director will be responsible for the overall running of the program at strategic and operational level. The Program Director is expected to take on this role in addition to his/her routine work.

The Program Director may require the support of a Program Coordinator/Administrator, particularly if there are more than 10 trainees undertaking the program at the same time (year 1 and year 2).

Responsibilities:

1. Ensure the program is operating within its pre-defined curriculum.
2. Ensure alignment between trainees, and the program aims & objectives.
3. Identify and assign appropriate resources within each facility to: (a) provide instruction to trainees on the development of particular dental clinical skills and competencies, (b) conduct on-the-job evaluations, and (c) provide constructive feedback to trainees as they progress through each module (e.g. DOPS, Mini-CEX, CBD).
4. Monitor and collate feedback on the implementation of the program from the Educational Advisor, trainees and evaluators, and enact corrective action when required.
5. Schedule, together with the Scientific Committee, regular/annual curriculum review meetings and provide suggestions for improvement to the SCFHS.
6. Certify that each candidate has successfully completed two years of training.
7. Submit evidence that all clinical requirements have been satisfactorily completed for each candidate (Appendix 6).

## Educational Advisor (EA)

The Educational Advisor plays a critical role in the delivery of the program to trainees. This role may be provided 'virtually', i.e., it does not require that the advisor and trainees are physically located in the same facility. It is proposed that the maximum ratio should be 1:6 trainees.

EA's will be key contact points for the trainees throughout the program and their key responsibilities are to:

1. Facilitate regular discussions with trainees (minimum every two weeks) to discuss and check progress, issues, challenges etc.
2. Review and discuss the learning outcomes of modules that will be new to trainees on the program. This ensures that they have a thorough understanding of the relevance and impact of medical subjects in general dentistry.
3. Provide guidance on clinical management from a professional perspective in collaboration with Topic Specialists/Demonstrators. Potentially direct the trainee to undertake assignments (e.g., write a case report) or prepare a presentation and present it to peers/fellow trainees on a particular topic in a (virtual) small group session.
4. Ensure trainees are academically supported as they progress through the modules.
5. Ensure trainees meet the assessment criteria of each module.
6. Notify the Program Director of any issues or concerns that might adversely affect a trainee's progression on the program.

## Topic Specialist Demonstrator (TSD)

The Topic Specialist Demonstrator provides guidance on clinical skills expertise to the trainee and therefore must take place in-person. There must be a minimum of one identified topic expert per facility, with a recommended ratio for practical clinical work of 1:4.

The specific function of the TSD is to:

1. Provide practical guidance, learning activities and clinical teaching to the trainee in the development of a particular skill or competence.
2. Offer guidance and skills at a practical level to trainees.
3. Be approachable and available to trainees that require guidance on specific technicalities of competence development.
4. Validate as 'satisfactory' the trainee's clinical competence under supervision and assess knowledge and clinical skills using the appropriate forms; DOPS, CBD or Mini-CEX evaluations.
5. Notify the Program Director of any issues or concerns that might adversely affect a trainee's progression on the program.

## Evaluation Panel

The SCFHS will establish an independent panel of evaluators at the outset of the program. These members will be responsible for an autonomous assessment and evaluation of trainee work at the end of the program. This enables consistent and transparent educational outcomes between the different centers involved. Their role is to assess the practical and academic work of the trainees by reviewing three submitted comprehensive cases and making recommendations to the program board on the progression of trainees to sit the final exam.



# Appendix 3: Simulation Workshops

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## 1. Medical Skills Workshop

Aim: This workshop takes place prior to the first family medicine rotation. It provides trainees an opportunity to practice skills that they may use during their family medicine and internal medicine rotations.

**Duration:** 2 days

### Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

1. Provide an intramuscular injection on a simulated model.
2. Perform venepuncture and set up an IV line.
3. Record and interpret coagulation profile.
4. Record and assess BMI.
5. Taking a BP manually and electronically.
6. Record an ECG.
7. Perform an ENT examination.
8. Perform a cranial nerve examination.
9. Demonstrate correct use of an inhaler.
10. Demonstrate use of a nebuliser.
11. Use a glucometer to record blood glucose levels and interpret the results.
12. Undertake an abbreviated mental test score.
13. Undertake a basic physical examination of the cardiovascular, respiratory and gastrointestinal system.
14. Understand the indications for and basic interpretation of:
  - Full blood count - anaemia, thrombocytopenia and leucopenia
  - Renal function - eGFR and chronic kidney disease
  - Liver function - obstructive and hepatitis patterns
  - Thyroid function tests - hyper and hypothyroid patterns
  - HbA1c- role in diabetes diagnosis and monitoring

### Topics

- Intramuscular injections and insertion of an intravenous line
- Phlebotomy
- BMI
- Blood pressure
- ECG
- ENT examination
- Inhalers and nebulisers
- Glucose recording
- Mini Mental test scores

### Educational Resources:

- Macleod's Clinical Examination: Graham Douglas; Fiona Nicol; Colin Robertson.

## 2. Endodontics Workshop

This workshop has been designed to help develop the skills that trainees will need to provide high standards of care for patients needing endodontic treatment. The workshop will cover a range of endodontic topics and will be delivered mainly through hands-on exercises and clinical scenarios supported by case discussions.

The main emphasis will be on helping trainees to develop and apply the technical skills required to achieve predictable endodontic outcomes.

**Duration:** 1 day

### Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

- Demonstrate the application of a rubber dam for endodontic procedures.
- Demonstrate the principles of access preparation and use of the appropriate armamentarium.
- Recognize the importance and techniques for irrigation for disinfection of the root canal system.
- Accurately determine diagnostic length.
- Describe the concept of crown-down instrumentation and clinical utilization of NiTi rotary files.
- Identify and avoid potential complications during root canal shaping
- Demonstrate contemporary obturation techniques.

### Topics

- Root canal anatomy and implications for treatment
- Rubber dam isolation and access cavity preparation
- Methods for determining diagnostic/ working length
- Root canal instrumentation principles: hand, rotary and reciprocating techniques
- Irrigation
- Shaping and obturation techniques
- Assessing treatment outcome
- Surgical endodontics and endodontic problems.

## 3. Restorative Workshop

Day one of this two-day workshop will cover the fundamentals of colour, shade selection and smile design. The focus will be on the use of composite materials to create aesthetic restorations for both anterior and posterior teeth. There is an emphasis on tooth morphology and use of the various matrix systems available.

- Day two will concentrate on ceramic restorations. The focus will be on appropriate conservative preparation techniques. To meet the high demands of mechanical loads in the oral cavity, high quality industrially pre-fabricated ceramics, which can be processed in CAD/CAM systems, are the primary choice for patients. These techniques will be addressed.

All procedures will be performed on phantoms and simulators. The key instruments and materials used for reconstruction/aesthetics will be presented. Next will follow a detailed description and illustration of different methods of reconstruction and aesthetics, depending on specific clinical scenarios.

**Duration:** 2 days

### Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

1. Explain current concepts in colour and shade selection and the necessary conditions.
2. Describe current concepts relating to smile design and aesthetic principles.
3. Prepare and place aesthetic anterior composite restorations.
4. Prepare and place aesthetic posterior composite restorations using minimal intervention principles.
5. Prepare teeth for anterior and posterior ceramic restorations using minimal preparation techniques.
6. Describe appropriate try-in luting and polishing techniques.

### Topics

- Colour principles and shade selection
- Smile design
- Anterior direct aesthetic composite restorations
- Posterior direct aesthetic composite restorations (including matrix systems)
- Introduction to ceramics and their clinical use
- Conservative ceramic preparation techniques (inlays, onlays, veneers and crowns)
- Luting techniques
- Try-in adjustment and polishing procedures
- Intra-oral ceramic repair
- CAD/CAM systems.

## 4. Oral Rehabilitation Workshop

This workshop will complement the theoretical teaching within this module, focusing on the required clinical skills necessary for treating complex cases.

The first day will focus on the accurate assessment and recording of occlusion. This will involve recording of jaw relations and transfer to an articulator. It will also include time reviewing the basic laboratory procedures required for fixed and removable prosthesis.

The second day covers implant supported prosthesis and the techniques needed to complete the restoration of an implant specifically focusing on impression taking.

**Duration:** 2 days

## Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

1. Complete an assessment of occlusion
2. Take a facebow recording and transfer to an articulator
3. Complete a centric relation registration
4. Describe the benefits of use of an articulator
5. Recognize the basic laboratory procedures for removable and fixed prosthesis.
6. Utilize appropriate clinical photography equipment and techniques to ensure consistency in the quality of captured images

## Topics

- Clinical photography
- The occlusal record
- Jaw relation records and the use of an articulator
- Basic lab procedures for fixed prosthesis
- Basic lab procedures for removable prosthesis.

## Appendix 4: Masterclasses

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### 1. Basic Implantology

This course will introduce the trainee to implant dentistry. It provides a basic understanding of the outlining and planning of various techniques required to produce a successful aesthetic and functional result. It will encompass a general overview of osseointegration, the knowledge required to diagnose a patient for implant treatment and plan a case. This includes the important interactions with surgical or periodontal colleagues and the laboratory.

Treatment requires the expertise of a dental team including a surgeon, periodontist and a competent general practitioner. It is important that this team work together to provide a treatment plan and post treatment care.

**Duration:** 1 day

#### Learning Outcomes

By the end of this masterclass trainees should be able to:

1. Recognize the differences between teeth and implants.
2. Describe the indications for implant placement.
3. Describe the assessment and treatment planning required for implant cases.
4. Explain the surgical phase of implant placement and the assessment of osseointegration.
5. Describe the various types of implants and their individual benefits.
6. Explain the restorative phase and clinical considerations for an aesthetic and functional result.
7. Demonstrate the appropriate techniques for implant hygiene to patients.
8. Explain the necessary clinical procedures required to ensure maintenance and monitoring of implants.

#### Topics

- Assessment of the dentition and treatment options
- Advantages and disadvantages of treatment options
- Treatment planning for implant restorations
- Radiographic techniques
- Basic implant surgery
- Osseointegration
- Tissue level versus bone level implants
- Loading protocols
- Basic restorative techniques (Screw and Cement retained)
- Common complications.

## 2. Orthodontics

This masterclass will provide an overview of modern orthodontic approaches for children and adults, including the foundations of effective evidence-based growth analysis, preventive and interceptive habit correction.

The key instruments and techniques for management of the breakage/damage of orthodontic appliances will be presented, followed by a detailed description and hands-on training for different methods of orthodontic appliances, depending on specific clinical scenarios.

**Duration:** 1 day

### Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

1. Recognize growth patterns in the different type of dento-facial deformities.
2. Describe the most commonly used space maintainers, and their clinical indications.
3. Explain the different modalities of orthodontic treatment, and their clinical indications.
4. Recognize the most commonly used retention appliances, and how to adjust them.
5. Rebond a loss bracket, adjust over-extended orthodontic wire, and rebond fixed retainers.

### Topics

- Growth
- Interceptive orthodontics
- Functional therapy and related approaches
- Fixed and removable orthodontics
- Aligners, retention and occlusion
- Orthodontic emergencies.

## 3. Oral Surgery

The main emphasis in this workshop will be on the management of patients experiencing post extraction bleeding, subjected to orofacial trauma and the various suturing techniques employed in both oral surgical techniques.

At the completion of this workshop, the trainee will have increased his/her competence and have confidence in dealing with both surgical and non-surgical wounds resulting from trauma to orofacial soft tissues and splinting anterior teeth involved in trauma. He or she will also be able to drain abscesses and suture wounds appropriately when the need arises. He or she will be able to take biopsies in cases of wounds that might be suspect carcinomas.

**Duration:** 1 day

### Learning Outcomes

By the end of this simulation workshop, the trainee will be able to:

1. Effectively manage a post-surgical bleed.
2. Manage complications of extractions.
3. Demonstrate the appropriate techniques for suturing.

4. Describe the assessment and management of a patient with dental trauma.
5. Recognize the appropriate steps for incision and drainage of infection.
6. Explain appropriate steps for excisional biopsy.

### Topics

- Clinical management of post-surgical bleeding
- Surgical closure of extraction sites
- Closure of oroantral fistula
- Suturing techniques (hands on element)
- Clinical management of trauma to dental and orofacial soft tissue
- Splinting of traumatized anterior teeth (hands-on element)
- Incision and drainage of infection
- Excisional biopsy

## 4. Social Determinants of Health and Global Health

The determinants of oral diseases, e.g. unhealthy diet such as excessive intake of sugars, tobacco usage and excessive alcohol consumption, are also common to other systemic diseases. Therefore oral healthcare professionals should be involved in policy making for prevention and control of the determinants of these diseases.

The FDI suggest that new models for oral health promotion should be considered. These models recognize that the behaviours accounting for many systemic diseases such as diabetes, cardiovascular disease, certain forms of cancer and respiratory diseases also critically contribute to oral diseases.

This masterclass will provide trainees with an overall approach to the epidemiological framework, structural determinants and conditions that contextualize the systemic and structural challenges that patients may face in addressing their health goals.

**Duration:** 1 day

### Learning Outcomes

On successful completion of this course, trainees will be able to:

1. Explain the Millennium Development Goals, how different countries strive to meet them and be aware of the post 2015 agenda of the Sustainable Development Goals.
2. Understand and evaluate how health and disease, mortality and morbidity are measured in a population, and how they change over time, but also between data sources.
3. Describe and compare the variation in the availability and type of care and quality within and between countries over time.
4. Understand how economic, social and environmental factors impact the health of a population.
5. Understand and describe how different professions collaborate and share tasks in healthcare in weak health systems with resource scarcity.
6. Explain and critically evaluate health transitions and the relationships between poverty, development and other social determinants of health.

7. Understand the relationships between gender, social inequalities, health inequalities and human rights.
8. Conceptualize how social determinants affect individual health and the distribution of health.

### Topics

- Health development and social determinants of health globally
- Health, wealth and development—the global burden of disease
- Economic impact of non-communicable diseases
- Early life, socioeconomic position and health
- Employment/lack of employment and health inequalities
- Gender and health
- Health in cities
- Disability inequality and human rights
- Sustainable development and health equity
- Environmental health
- Non-communicable diseases
- Welfare policies and health.

## 5. Practice Management, Quality and Risk Management

Patients expectations, and the need to obtain informed consent during the course of medical or dental treatment, make it even more important and challenging to address a new paradigm. In this relationship, the patient is no longer a “passive patient”, but rather a pro-active and often knowledgeable “consumer of healthcare services”. The patient experience and their perceptions on what constitutes a quality experience is unique. Even in cases where such errors do not occur, user complaints and risks can and do occur. The dissatisfied service user can react and express such dissatisfaction in many ways for which the service provider must be equipped to prevent and/or manage.

**Duration:** 1 day

### Learning Outcomes

On successful completion of this module, trainees will be able to:

1. Develop a critical awareness of service users’ perceptions of healthcare quality and have conceptualized the implications of this within their own practice.
2. Appraise applications of quality and risk management systems in the context of their area of practice to draw conclusions on how practice can be improved.
3. Critically analyze and evaluate relevant and recent healthcare risk management, quality and patient safety literature.
4. Understand and apply local risk and quality management policies within their personal practice to the level of their scope of practice.
5. Demonstrate an understanding through critical reflection, the key learnings of the module as they apply to the trainee’s practice.



## Topics

Trainees will navigate through the six domains put forward by the Institute of Medicine to measure and describe quality of care in health:

- Safe—avoiding injuries to patients from care that is intended to help them.
- Effective—avoiding overuse and misuse of care.
- Patient-centred—providing care that is unique to a patient's needs.
- Timely—reducing wait times and harmful delays for patients and providers.
- Efficient—avoiding waste of equipment, supplies, ideas and energy.
- Equitable—providing care that does not vary across intrinsic personal characteristics.

Additionally, they will be exposed to increasingly popular trends impacting on dental practice, enabling the trainee to competently navigate knowledge-based systems, such as:

- Sustainability and environmentally aware dental practice
- Ergonomics and management of own health
- Telemedicine and tele-consultations
- Electronic Healthcare/Medical Record
- The expanding and altering roles within dental care teams worldwide
- Changing demographics and their implications to practice
- The role of the dentist in society
- The role of teamwork within the family dentistry setting
- Dentistry in the era of digitalization and artificial intelligence

## 6. Management of Medically Compromised Patients in Dentistry

This masterclass will provide an overview of the management of the medically compromised patient requiring dental care. Students will learn comprehensive history taking, assessment and pre-operative patient evaluation. The significance of polypharmacy associated with the medically compromised patient and the impact on dental procedures will be explored. Safe and effective management of high risk patients will be discussed and the importance of post-operative care, instruction and follow up emphasised. This teaching aims to recognise dental care as an integral part of whole patient care while highlighting the critical role of communication with primary physicians and other specialists.

**Duration:** 1 day

### Learning Outcomes

On successful completion of this masterclass, trainees will be able to:

1. Formulate a comprehensive history
2. Perform a pre-operative evaluation
3. Understand the pathophysiology of common diseases
4. Recognize the importance of the patient's current medication
5. Identify high risk patients
6. Communicate clearly with the primary physician
7. Provide patients with post-operative care and instructions.

## Topics

- Medical history taking and assessment
- Cardiovascular disease
- Hematological disease
- Respiratory disorders
- Gastrointestinal diseases
- Liver disease
- Kidney disease
- Endocrine disorders
- Psychiatric disorders
- Immunodeficiency diseases
- Neurological disease

## Appendix 5: e-Learning Courses

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Trainees must undertake the following SCFHS e-learning courses during the first couple of months of the program.

### 1. Ethics

Ethical behaviour and practicing within your scope of practice to a code of professional conduct is the bedrock of professionalism for healthcare professionals, family dental practitioners included. Within their day to day practice, Family Dental Practitioners may be required to balance competing commercial, personal, professional, ethical and other factors and to make judgement calls in such situations. Such factors and decisions will at times challenge and influence the practitioners' decision-making processes.

### 2. Infection Prevention & Control

The principles of asepsis are similar from case to case, focusing on the identification and treatment of problems relating to materials, environments and personnel involved. Infection control and patient safety probably represents the biggest challenge to the busy practitioner. The dentist has a statutory and moral obligation to ensure that dentistry is practiced safely without the risk of transmission of infectious agents. This is achieved through the formation and implementation of sensible, comprehensive and workable policy based on a thorough knowledge of the underlying principles.

### 3. Communication skills

Communication, simply put, is the exchange of information between people. It is particularly important in any occupation whose main procedure involves close contact with people. The dental professional cannot function professionally without effective communication, personally with patients and also by imparting knowledge and ideas whether by speech, writing or signs.

### 4. Patient Safety

The World Health Organization defines patient safety as "the prevention of errors and adverse effects to patients associated with healthcare". Patient safety and quality are high profile topics in healthcare at the moment. This course highlights patient safety issues, looks at how to develop strategies that help reduce the risks for our patients and at ways to develop a patient safety culture within our teams.

## Appendix 6: Clinical Skills Requirement

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Trainees will be required to keep a log of all completed clinical procedures. The Program Director or Topic Specialist should approve the procedure on the date it was performed. These will be recorded on the learning management system. The minimum clinical requirements are detailed below.

### 1. Restorative Dentistry

- 80 Posterior restorations - at least 10 should be amalgam restorations
- 120 Aesthetic restorations
  - 4 Bleaching (vital and non-vital)
  - 6 Foundation restorations
  - 15 Post/core

### 2. Prosthodontics

- 20 Unit crowns and fixed prosthodontics
- 12 Single unit veneers
  - 1 Complete denture (upper and lower)
  - 2 Arches Co-Cr removable partial dentures
  - 2 Arches transitional dentures

### 3. Endodontics

- 6 Upper and lower incisors
- 10 Upper and lower bicuspid
- 6 Upper and lower molars
- 8 Upper and lower retreatments

### 4. Periodontics

- 20 Cases non-surgical periodontal therapy
  - 2 Gingivectomy
  - 2 Crown lengthening
  - 5 Reassessment cases (requiring full periodontal charting)

## 5. Pediatric Dentistry

- 10 Teeth for anterior restoration
- 10 Posterior restorations
- 10 Stainless Crowns
- 5 Pulpotomies
- 5 Pulpectomies
- 2 Arches for space maintainer
- 2 Arches for fissure sealants
- 2 Arches for prophylaxis and fluoride application

## 6. Minor Oral Surgery

- 6 Incisor extractions
- 6 Bicuspid extractions in either arch
- 10 Molar extractions in either arch

## Appendix 7: Contents and Format of Case Submission

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### Comprehensive Patient Care.

This should include the following;

- Restorative charting
- Comprehensive periodontal charting
- Oral hygiene status; BPE; soft tissue examination; TMJ and muscles
- Occlusal assessment
- Full medical assessment and follow up.

Three out of the following five must be submitted; two of the three selected cases must be medically compromised patients:

1. **Paediatric Dentistry:**  
Caries control, periodontal management, occlusal management, behaviour management and continuing care.
2. **Restorative Dentistry:**  
Restoration type, aesthetics, structural and biological integrity, marginal adaptation and integrity, occlusion and continuing care.
3. **Special Needs:**  
Handicapped, elderly, social circumstances and continuing care.
4. **Peridontics:**  
Description, assessment, non-surgical treatment, surgical treatment, patient compliance and continuing care.
5. **Oral Rehabilitation:**  
Restoration type, aesthetics, structural and biological integrity, marginal adaptation and integrity, occlusion and continuing care.

### Important points to consider:

1. The comprehensive treatment plan must follow standardized treatment planning. This includes: patient history, examination findings, diagnosis/problem list by discipline, treatment objective/overview, phases of treatment, prognosis, lab scripts (if applicable), medical consult forms, RPD design (if applicable), and periodontal charting (see example details provided).
2. Presented cases will be considered unacceptable if: (a) the diagnosis and/or treatment plan is considered incomplete, (b) is not supported by clinical findings or information provided, (c) there are gross errors in content and sequencing, and (d) treatment rendered is clearly inappropriate or not supported by the current standard of accepted dental therapeutics.
3. Trainees may utilize digital photographs and radiographs provided no alterations of the images have been performed, with the exception of peripheral cropping. Any alteration will be considered unacceptable. Photographs must exhibit excellent contrast and sharpness and all required views must be present.

4. All pre/post radiographs must be of diagnostic quality possessing excellent contrast and sharpness and properly mounted. Cone cuts, distortions, and apical "cut-offs" seriously compromise diagnostic quality and are not considered acceptable. Articulated casts must be properly mounted, clean and without blebs, bubbles or other significant imperfections.
5. All basic components of accepted design concepts for both fixed, implant, and removable prosthesis must be considered and optimally applied. Furthermore, restorative materials must be appropriate to the situation in which employed. The restorations must be physiologically compatible and well integrated with other elements of care. Work authorizations must be written so that all pertinent information is present and clearly described. Improper prosthetic design concepts, missing components of design concepts, or components which have not been addressed will be considered unacceptable.
6. Trainees must be prepared to defend their diagnosis, prognosis, treatment planning, treatment, and maintenance based upon; (a) evidence based dentistry, (b) accepted current literature, (c) classical literature, and (d) the current standard of accepted dental therapeutics.

## Appendix 8: Sample Whole Patient Care Plan

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### Whole Patient Care Plan

Trainee ID: \_\_\_\_\_

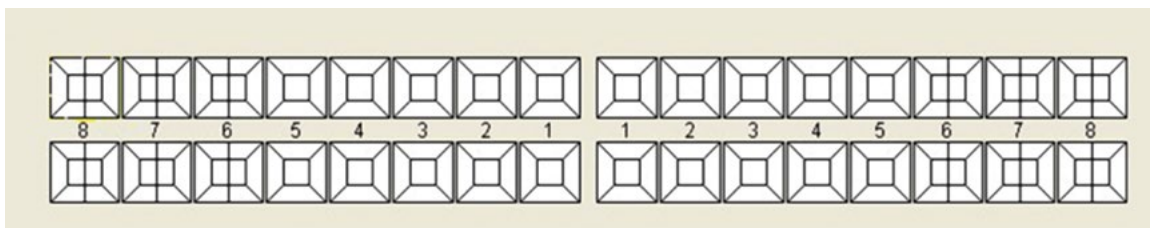
Case Type: \_\_\_\_\_

Case ID: \_\_\_\_\_

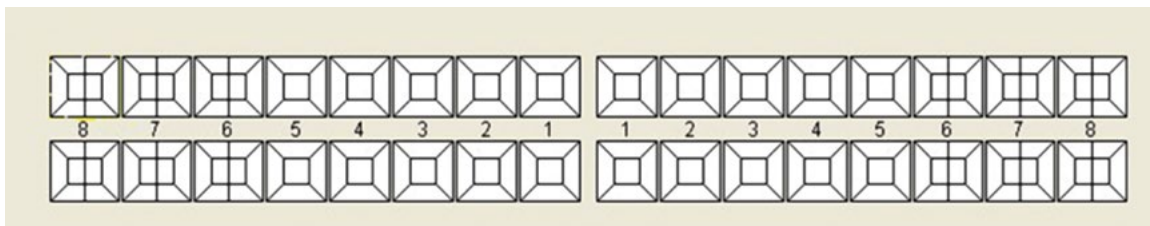


## CHARTING SECTION

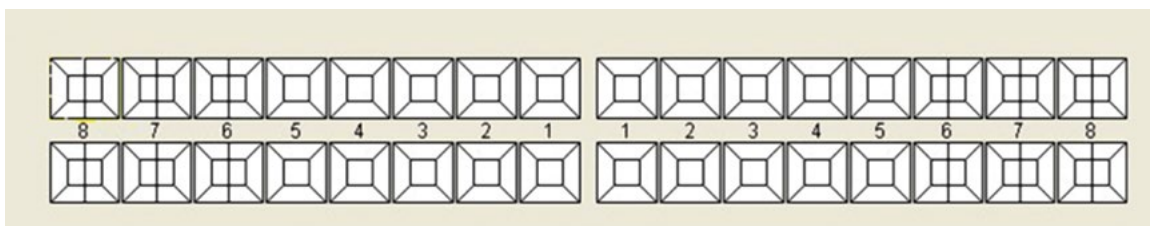
Dental Chart (Existing Restoration and missing teeth)



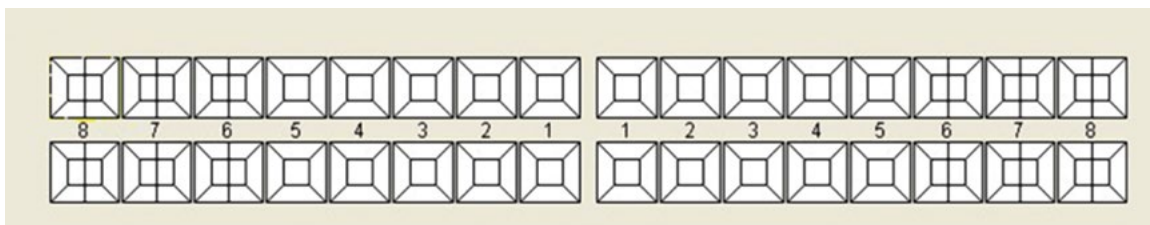
Dental Chart (Restorations Required)



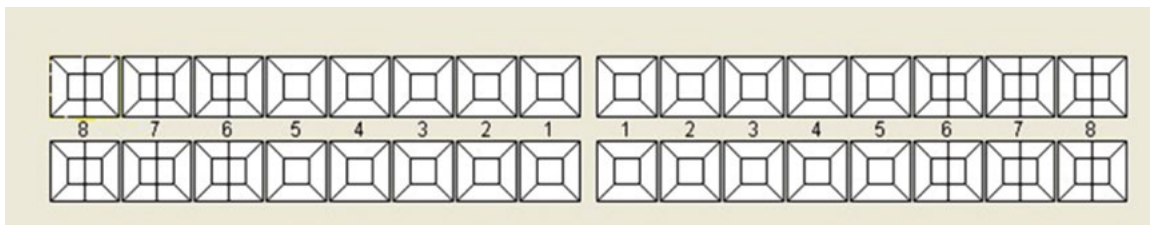
Dental Chart (Cracks/Fractures/Weak Enamel)



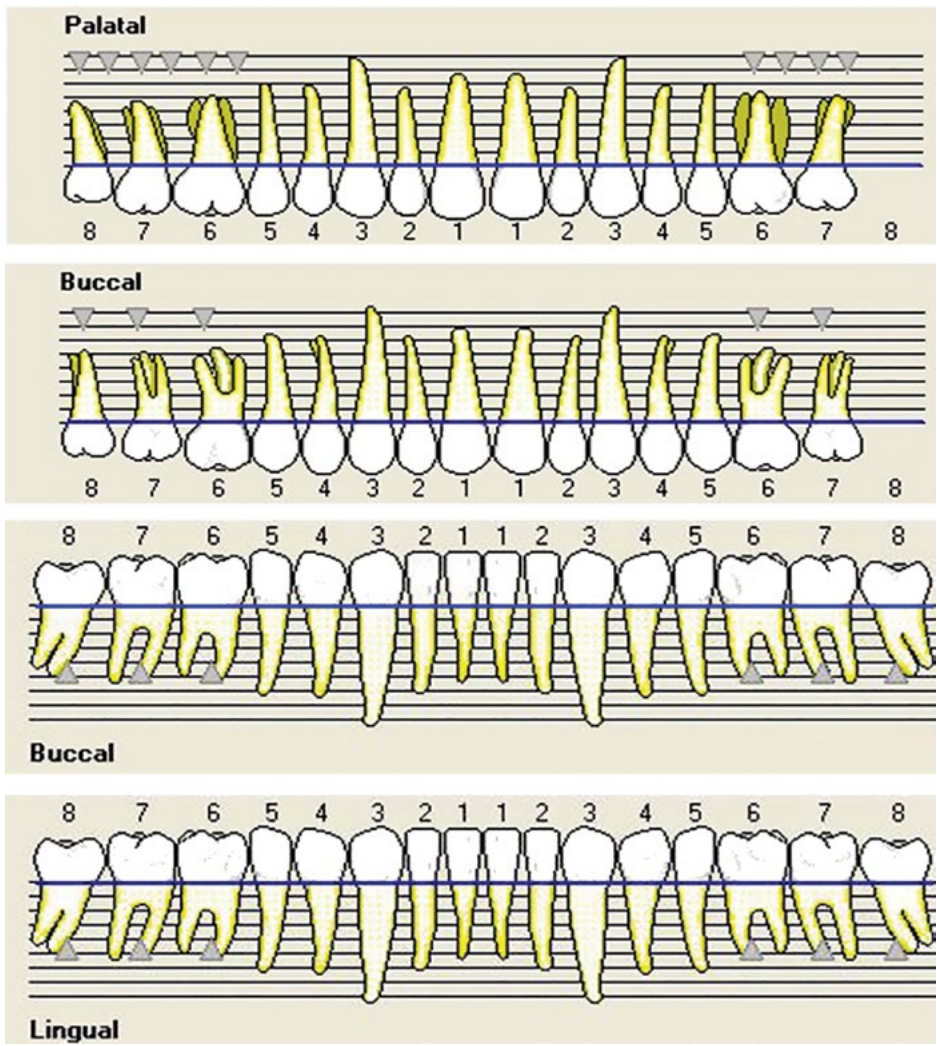
Dental Chart (Abrasion, Erosion, Wear Facets)



Dental Chart (Apical Status/Vitality and Mobility 1, 2 or 3)



Periodontal Chart (Draw in gingival level and bone height)

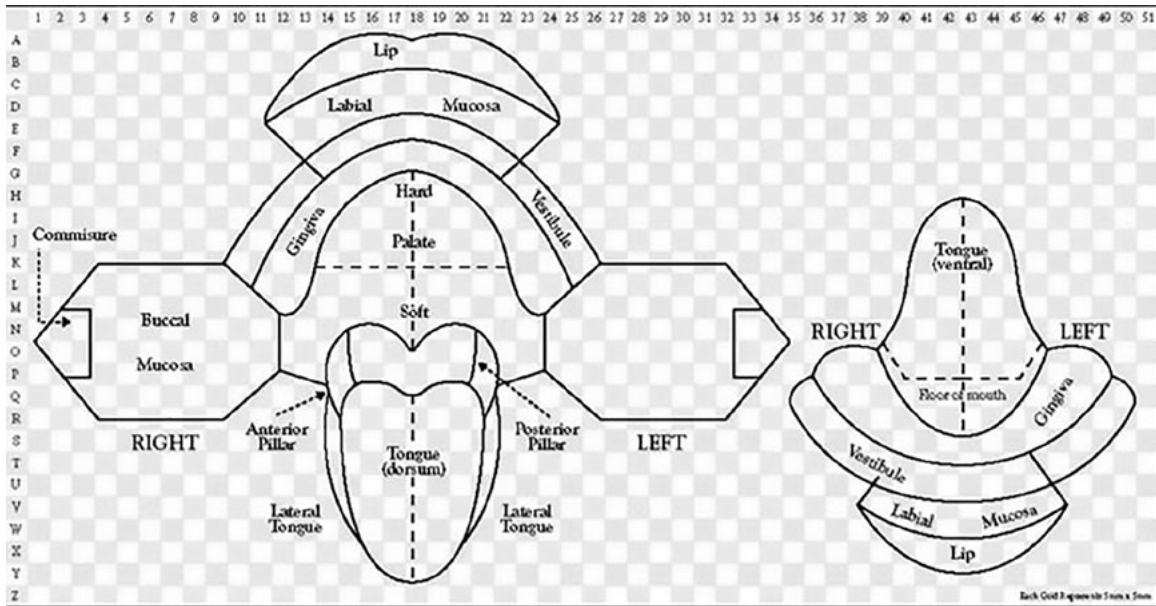


Oral Hygiene Assessment


excellent	good	adequate	doubtful

BPE


## Soft Tissue Examination



## TMJ and Muscles

RIGHT		LEFT
	PAIN	
	CLICK	
	TENDERNESS PALPITATION	
	MASSETER	
	TEMPORALIS	
	LAT-PTERYGOID	

## Occlusal Assessment

### Occlusion Contacts

Working:	_____
Non-working:	_____
CR-ICP:	_____
Ant guidance:	_____

## Appendix 9: Criterion Statements for Patient Presentation Records

---

### Pre and Post-Operative Radiographs, Casts, Dies

- **Acceptable**

Preoperative radiographs are originals, properly processed and mounted with no evidence of cone cuts, distortions, improper film placement and apical “cut off.” Casts are clean, securely mounted and accurately reproduce the oral structures. Casts are free of any elements which would introduce error.

- **Marginal**

Radiographs are adequate but demonstrate slight variations in contrast. Casts are adequate but lack optimal quality. All required views are present.

- **Unacceptable** (any one of the following constitutes unacceptability)

Radiographs are improperly processed and mounted. Cone cuts, distortions, improper film placement and apical “cut off” severely compromise diagnostic quality. Casts are incomplete, lack essential elements for proper articulation or are insecurely mounted. Casts are porous, dirty. The mounting is not smooth and neat. Articulation instrument inadequately programmed or inappropriately used. Required views are missing.

### Medical History/Examination Form used for Removal Prosthodontic Treatment

- **Acceptable**

All pertinent information has been collected and recorded accurately.

- **Marginal**

Information is generally adequate but some aspects are marginally covered.

- **Unacceptable** (any one of the following constitutes unacceptability)

Pertinent information has not been collected, not recorded accurately or no form was used.

### Patient Presentation—History and Clinical Examination

- **Acceptable**

History records chief complaint, and account of current problems, past history of dental and general health, family history, personal history, and a review of systems. Clinical examination includes a general survey of patient condition, examination of the head and neck, examination of the soft tissues of the mouth, and detailed information gained from a comprehensive dental examination.

- **Marginal**

History is adequate though in-depth coverage of some elements is marginal. Clinical examination is adequate, though some aspects of the examination are marginally covered.

- **Unacceptable** (Any one of the following constitutes unacceptability)

History is poorly organized and fails to elicit pertinent information. Omissions compromise the formulation of an accurate diagnosis. Clinical examination is deficient, resulting in a lack of needed diagnostic information.

## Patient Presentation - Diagnosis and Treatment Planning

- **Acceptable**  
Diagnosis is appropriate and supported by a systematic method of identifying oral disease. Treatment plan is organized and chronologically sequenced to prevent and correct oral disease.
- **Marginal**  
Diagnosis is adequate though method used for formulating it is questionable. Treatment plan is marginally adequate but not well organized.
- **Unacceptable** (any one of the following constitutes unacceptability)  
Diagnosis is clearly inappropriate and is not supported by clinical findings. Treatment plan is grossly inadequate with errors in content and/or sequencing. Teeth have been inappropriately prepared, restored and/or extracted. Teeth that should have been treated were not.

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