

## **BRANCH - IX**

### **ORAL MEDICINE AND RADIOLOGY**

(As Per DCI)

#### **Oral Medicine:**

Oral Medicine is the specialty of dentistry that is concerned with the oral health care of medically compromised patients and with the diagnosis and nonsurgical management of medically related disorders or conditions affecting the oral and maxillofacial region. Oral medicine specialists are concerned with the nonsurgical medical aspects of dentistry. These specialists are involved in the primary diagnosis and treatment of oral diseases that do not respond to conventional dental or maxillofacial surgical procedures. The practice of oral medicine will provide optimal health to all people through the diagnosis and management of oral diseases.

#### **Oral Diagnosis:**

Oral Diagnosis is art of using scientific knowledge of identifying oral disease process and distinguishing one disease from other.

#### **Oral Radiology:**

Radiology is a science dealing with x-rays and their uses in diagnosis and treatment of diseases in relation to oro-facial diseases.

### **1. AIM**

- 1.1 To train dental graduates to ensure higher competence in both general and special areas of Oral Medicine and Radiology
- 1.2 To prepare a candidate for teaching, research and clinical abilities including prevention of various oral and maxillofacial lesions.

### **2. GENERAL OBJECTIVES OF THE COURSE**

At the end of 3 years of training the candidate should be able to acquire -

- 2.1 Training programme in Oral Medicine, Diagnosis and Radiology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to research with understanding of social, cultural, educational and environmental background of the society.
- 2.2 Have acquired adequate knowledge and understanding of applied basic and systemic medical science, knowledge in general and particularly of head and neck.
- 2.3 The postgraduates will be able to provide medicinal therapy for patients with competence and working knowledge with understanding of applied medical, behavioral and clinical science that are beyond the treatment skills of the general BDS graduate and

MDS graduate of other specialities, to demonstrate evaluative and judgment skills in making appropriate decisions regarding prevention, treatment, after care and referral to deliver comprehensive care to patients.

### **3. KNOWLEDGE**

- 3.1 The candidate should possess knowledge of applied basic and systemic medical sciences on human anatomy, embryology, histology, applied in general and particularly to head and neck, Physiology & Biochemistry, Pathology and Microbiology, Virology, Health and Diseases Nutrition, Behavioural science, age changes, genetics, Immunology, Congenital defects and syndrome and Anthropology, Bioengineering, Bio-medical and Biological Principle and applications to Dental material science.
- 3.2 Ability to diagnose and planned treatment
- 3.3 Ability to read and interpret a Radiograph and other investigations for the purpose of diagnosis and treatment plan.
- 3.4 Should have essential knowledge on ethics, laws and Jurisprudence and forensic odontology.
- 3.5 Identify cases, which are outside the area of his speciality / competence and refer those appropriate specialists.
- 3.6 To have acquired adequate knowledge and understanding of applied basic and systematic medical science knowledge in general and particular to head and neck.
- 3.7 Should attend continuing education programs, seminars and conferences related to Speciality, thus updating himself.
- 3.8 Teach and guide his/her team, colleague and other students.
- 3.9 Should be able to use information technology tools and carry out research both basic clinical, with the aims of publishing his/her work and presenting his/her work at various scientific forums.
- 3.10 Should have essential knowledge of personal hygiene, infection control, prevention of cross infection and safe disposal waste, keeping in view the risks of transmission of Hepatitis and HIV.
- 3.11 Should have a sound knowledge for application of pharmacology. Effects of drugs on oral tissue and systems of body and for medically compromised patients.

3.12 Theoretical, Clinical and practical knowledge of all oro-facial lesions, diagnostic procedures pertaining to them and latest information of imaging modules and recent advances in treatment modalities

#### **4. SKILLS:**

4.1 The candidate should be able to examine the patients, investigate the patient systemically, analyze the investigation results, radiology, diagnose the ailment, plan a treatment, communicate it with the patient and execute it.

4.2 Understand the prevalence and prevention of diseases of Cranio-mandibular system.

4.3 The candidate should be able to restore lost functions of stomatognathic system namely mastication, speech, appearance and psychological comforts. By understanding biological, biomedical, bioengineering principles and systemic condition of the patient to provide a quality health care of the craniofacial region.

4.4 The candidate should be able to interact with other speciality including medical speciality congenital defects, Temporo-mandibular joint syndromes, esthetics, implant supported prosthetics and problems of psychogenic origin.

4.5 Should be able to demonstrate the clinical competence necessary to carry out appropriate treatment at higher level of knowledge, training and practice skills currently available in the specialty.

4.6 Identify target diseases and awareness amongst the population.

4.7 Three important skills need to be imparted -

4.7.1 Diagnostic skill in recognition of oral lesions and their management.

4.7.2 Research skills in handling scientific problems pertaining to oral treatment.

4.7.3 Clinical and Didactic skills in encouraging younger doctors to attain learning objectives.

#### **5. ATTITUDES :**

5.1 Adopt ethical principles in Oral Medicine Practice. Professional honesty and integrity are to be fostered. Treatment to be delivered irrespective of social status, caste, creed or region of patient.

5.2 Willing to share knowledge and clinical experience with professional colleagues.

- 5.3 Willing to adopt new methods and techniques from time to time based on scientific research, which is in patient's best interest.
- 5.4 Respect patient's rights and privileges including patient's right to information and right to seek second opinion.
- 5.5 The positive mental attitude and the persistence of continued learning need to be inculcated.

## **6. COMMUNICATIVE ABILITIES :**

- 6.1 Develop communication skills, in particular, to explain treatment option available in management.
- 6.2 Provide leadership and get the best out of his group in a congenial working atmosphere.
- 6.3 Should be able to communicate in simple understandable language with the patient to explain the principles of Oral Medicine to the patient. He should be able to guide and counsel the patient with regard to various treatment modalities available.
- 6.4 Develop the ability to communicate with professional colleagues through various media like Internet, e-mail, video conference and etc. to render the best possible treatment.

## **7. COURSE :**

The candidates shall undergo training for Three academic years with satisfactory attendance above 80 % for each year.

- 7.1 The course includes epidemiology and demographic studies, research and teaching skills.
- 7.2 Ability to prevent, diagnose and treat with after care for all patients for control of diseases and / or treatment related syndromes with patient satisfaction for restoring functions of stomatognathic system.
- 7.3 The program outline addresses the knowledge, procedural and operative skills needed in Masters Degree in Oral Medicine, Diagnosis and Radiology. A minimum of Three years of formal training through a graded system of education as specified will enable the trainee to achieve Masters Degree, competently and have the necessary skills / knowledge to update themselves with advancements in the field. The course content has been identified and categorized as Essential knowledge as given below-

## **8. SYLLABUS DISTRIBUTION:**

Paper I - **Applied Basic Sciences**  
(Applied Anatomy, Physiology, Biochemistry, Pathology, and Pharmacology.)

Paper II - **Differential Diagnosis, Diagnostic Methods & Oral and Maxillofacial Radiology.**

Paper III - **Oral Medicine, Therapeutics and Laboratory Investigations.**

Paper IV - **Essay**

### **8.1 PAPER I: APPLIED BASIC SCIENCES**

A thorough knowledge on the applied aspects of Anatomy, Embryology, Histology particularly to head and neck, Physiology, Biochemistry, Pathology, Microbiology, Virology. Pharmacology, health and systemic diseases and principles in surgery medicine and anesthesia, Nutrition, Behavioral sciences, age changes, genetics, Bio-engineering and bio-medical and research methodology as related to speciality. It is desirable to have adequate knowledge in bio-statics, research methodology and use of computers. Includes Applied Anatomy, Physiology, Biochemistry, Pathology, and Pharmacology.

#### **8.1.1 APPLIED ANATOMY**

##### **8.1.1.1. Gross Anatomy of the Face:**

- 8.1.1. 1.1. Muscles of Facial Expression and Muscles of Mastication.
- 8.1.1. 1.2. Temporo- Mandibular Joint.
- 8.1.1. 1.3. Facial nerve.
- 8.1.1. 1.4. Facial artery.
- 8.1.1. 1.5. Facial vein.
- 8.1.1. 1.6. Major and Minor salivary glands.

##### **8.1.1.2. Neck Region:**

- 8.1.1.2.1. Triangles of the neck with special reference to Carotid, Digastric triangles and midline structures.
- 8.1.1.2.2. Facial spaces.
- 8.1.1.2.3. Carotid system of arteries, Vertebral Artery, & Subclavian arteries.
- 8.1.1.2.4. Jugular system - Internal jugular, External jugular.
- 8.1.1.2.5. Lymphatic drainage.
- 8.1.1.2.6. Cervical plane.
- 8.1.1.2.7. Muscles derived from Pharyngeal arches.
- 8.1.1.2.8. Endocrine glands.
- 8.1.1.2.9. Sympathetic chain.
- 8.1.1.2.10. Cranial nerves- V, VII, IX, XI, & XII.

##### **8.1.1.3 Oral Cavity :**

8.1.1.3.1. Vestibule and oral cavity proper.

8.1.1.3.2. Tongue and teeth .

8.1.1.3.3. Palate -soft and hard.

8.1.1.4. Nasal Cavity :

8.1.1.4.1. Nasal septum.

8.1.1.4.2. Lateral wall of nasal cavity.

8.1.1.5. Pharynx

8.1.1.6. Paranasal air sinuses

8.1.1.7 Gross salient features of brain and spinal cord with references to attachment of cranial nerves to the brain stem.

8.1.1.8 Detailed study of the cranial nerve nuclei of V, VII, IX, X, XI, XII.

8.1.1.9. Osteology : Comparative study of fetal and adult skull, Development, ossification, age changes and evaluation of Maxillo-facial bones and mandible.

8.1.1.10. Embryology :

8.1.1.10.1. Development of face, palate, nasal septum and cavity, paranasal air sinuses.

8.1.1.10.2. Pharyngeal apparatus in detail including the floor of the primitive pharynx.

8.1.1.10.3. Development of tooth in detail and the age changes.

8.1.1.10.4. Development of salivary glands.

8.1.1.10.5. Congenital anomalies of face must be dealt in detail.

8.1.1.10.6. Development of the tongue.

8.1.1.11. Histology :

8.1.1.11.1. Study of epithelium of oral cavity and the respiratory tract.

8.1.1.11.2. Connective tissue.

8.1.1.11.3. Muscular tissue.

8.1.1.11.4. Nervous tissue.

8.1.1.11.5. Blood vessels.

8.1.1.11.6. Cartilage.

8.1.1.11.7. Bone and tooth.

8.1.1.11.8. Tongue.

8.1.1.11.9. Salivary glands.

8.1.1.11.10. Tonsil, thymus, lymph nodes.

8.1.2 PHYSIOLOGY :

8.1.2.1. General Physiology :

8.1.2.1.1. Cell.

8.1.2.1.2. Body Fluid Compartments.

8.1.2.1.3. Classification.

8.1.2.1.4. Composition.

8.1.2.1.5. Cellular transport.

8.1.2.1.6. RMP and action potential.

8.1.2.2. Muscle Nerve Physiology :

- 8.1.2.2.1. Structure of a neuron and properties of nerve fibers.
- 8.1.2.2.2. Structure of muscle fibers and properties of muscle fibers.
- 8.1.2.2.3. Neuromuscular transmission.
- 8.1.2.2.4. Mechanism of muscle contraction.

8.1.2.3. Blood :

- 8.1.2.3.1. RBC and Hemoglobin.
- 8.1.2.3.2. WBC -Structure and functions.
- 8.1.2.3.3. Platelets -functions and applied aspects.
- 8.1.2.3.4. Plasma Proteins.
- 8.1.2.3.5. Blood Coagulation with applied aspects.
- 8.1.2.3.6. Blood groups.
- 8.1.2.3.7. Lymph and applied aspects.

8.1.2.4. Respiratory System:

- 8.1.2.4.1. Air passages, composition of air, dead space, mechanics of respiration with pressure and volume changes .
- 8.1.2.4.2. Lung volumes and capacities and applied aspects.
- 8.1.2.4.3. Oxygen and carbon dioxide transport.
- 8.1.2.4.4. Neural regulation of respiration.
- 8.1.2.4.5. Chemical regulation of respiration.
- 8.1.2.4.6. Hypoxia, effects of increased and decreased barometric pressure.

8.1.2.5. Cardio-Vascular System:

- 8.1.2.5.1. Cardiac Cycle.
- 8.1.2.5.2. Regulation of heart rate/ Stroke volume / cardiac output / blood flow.
- 8.1.2.5.3. Regulation of blood pressure.
- 8.1.2.5.4. Anaphylaxis, hypertension, cardiac failure.

8.1.2.6. Excretory system:

- 8.1.2.6.1. Renal function tests.

8.1.2.7. Gastro- intestinal tract:

- 8.1.2.7.1. Composition, functions and regulation of -
- 8.1.2.7.2. Saliva.
- 8.1.2.7.3. Gastric juice.
- 8.1.2.7.4. Pancreatic juice.
- 8.1.2.7.5. Bile and intestinal juice.
- 8.1.2.7.6. Mastication and deglutition.

8.1.2.8. Endocrine system:

- 8.1.2.8.1. Hormones -classification and mechanism of action.
- 8.1.2.8.2. Hypothalamic and pituitary hormones.
- 8.1.2.8.3. Thyroid hormones.
- 8.1.2.8.4. Parathyroid hormones and calcium homeostasis.
- 8.1.2.8.5. Pancreatic hormones.
- 8.1.2.8.6. Adrenal hormones.

#### 8.1.2.9. Central Nervous System:

8.1.2.9.1. Ascending tract with special references to pain pathway

8.1.2.9.2. Special Senses: Gustation and Olfaction.

### 8.1.3 BIOCHEMISTRY:

#### 8.1.3.1. Carbohydrates

8.1.3.1.1. Disaccharides specifically maltose, lactose, sucrose.

8.1.3.1.2. Digestion of starch/absorption of glucose.

8.1.3.1.3. Metabolism of glucose, specifically glycolysis, TCA cycle, gluconeogenesis

8.1.3.1.4. Blood sugar regulation.

8.1.3.1.5. Glycogen storage regulation.

8.1.3.1.6. Glycogen storage diseases.

8.1.3.1.7. Galactosemia and fructosemia.

#### 8.1.3.2. Lipids

8.1.3.2.1. Fatty acids – Essential / Non essential.

8.1.3.2.2. Metabolism of Fatty acids- oxidation, ketone body formation, utilization and ketosis.

8.1.3.2.3. Outline of cholesterol metabolism- synthesis and products formed from Cholesterol.

#### 8.1.3.3. Protein

8.1.3.3.1. Amino acids- essential/non essential, complete/ incomplete proteins.

8.1.3.3.2. Transamination/ Deamination (Definition with examples).

8.1.3.3.3. Urea cycle.

8.1.3.3.4. Tyrosine – Hormones synthesized from tyrosine.

8.1.3.3.5. In born errors of amino acid metabolism.

8.1.3.3.6. Methionine and transmethylation.

#### 8.1.3.4. Nucleic Acids

8.1.3.4.1. Purines / Pyrimidines

8.1.3.4.2. Purine analogs in medicine.

8.1.3.4.3. DNA / RNA – Outline of structure.

8.1.3.4.4. Transcription / translation.

8.1.3.4.5. Steps of protein synthesis.

8.1.3.4.6. Inhibitors of protein synthesis.

8.1.3.4.7. Regulation of gene functional.

#### 8.1.3.5. Minerals

8.1.3.5.1. Calcium & Phosphorus metabolism

8.1.3.5.2. Iron metabolism.

8.1.3.5.3. Iodine metabolism.

8.1.3.5.4. Trace elements in nutrition.

#### 8.1.3.6. Energy Metabolism

8.1.3.6.1. Basal metabolic rate.



8.1.3.6.2. Specific dynamic action (SDA) of foods.

8.1.3.7. Vitamins

8.1.3.7.1. Vitamins and their metabolic role-specifically - vitamin A, Vitamin C, Vitamin D, Thiamin, Riboflavin, Niacin, Pyridoxine.

8.1.4. PATHOLOGY:

8.1.4.1. Inflammation:

8.1.4.1.1. Repair and regeneration, necrosis and gangrene.

8.1.4.1.2. Role of complement system in acute inflammation.

8.1.4.1.3. Chronic inflammation.

8.1.4.1.4. Role of arachidonic acid and its metabolites in acute inflammation.

8.1.4.1.5. Growth factors in acute inflammation.

8.1.4.1.6. Role of molecular events in cell growth and intercellular signaling cell surface receptors.

8.1.4.1.7. Role of NSAIDS in inflammation.

8.1.4.1.8. Cellular changes in radiation injury and its manifestations.

8.1.4.2. Homeostasis :

8.1.4.2.1. Role of Endothelium in thrombo -genesis.

8.1.4.2.2. Arterial and venous thrombi.

8.1.4.2.3. Disseminated Intravascular Coagulation.

8.1.4.3. Shock :

8.1.4.3.1. Pathogenesis of Hemorrhagic, Neurogenic, Septic and Cardiogenic shock.

8.1.4.3.2. Pathogenesis of Circulatory disturbances.

8.1.4.3.3. Pathogenesis of Ischemic Hyperemia.

8.1.4.3.4. Pathogenesis of Venous congestion, Edema, Infarction.

8.1.4.4. Chromosomal Abnormalities :

8.1.4.4.1. Mar fan's syndrome.

8.1.4.4.2. Ehler's Danlos Syndrome.

8.1.4.4.3. Fragile X Syndrome.

8.1.4.5. Hypersensitivity :

8.1.4.5.1. Anaphylaxis.

8.1.4.5.2. Type II Hypersensitivity.

8.1.4.5.3. Type III Hypersensitivity.

8.1.4.5.4. Cell mediated Reaction and its clinical importance.

8.1.4.5.5. Systemic Lupus Erythematosus.

8.1.4.5.6. Infection and Infective Granulomas.

8.1.4.6. Neoplasia :

8.1.4.6.1. Classification of Tumors.

8.1.4.6.2. Carcinogenesis & Carcinogens -Chemical, Viral and Microbial.

8.1.4.6.3. Grading and Staging of Cancer, Paraneoplastic Syndrome.

8.1.4.6.4. Spread of tumors.

8.1.4.6.5. Characteristics of Benign and Malignant tumors.

8.1.4.7. Others :

8.1.4.7.1. Sex linked agama-globulinemia.

8.1.4.7.2. AIDS.

8.1.4.7.3. Management of Immune deficiency patients requiring surgical procedures.

8.1.4.7.4. De George's Syndrome.

8.1.4.7.5. Ghons complex.

8.1.4.7.6. Post primary pulmonary tuberculosis - pathology and pathogenesis.

8.1.5 PHARMACOLOGY :

8.1.5.1. Definition of terminologies used.

8.1.5.2. Dosage and mode of administration of drugs.

8.1.5.3. Action and fate of drugs in the body.

8.1.5.4. Drugs acting on the CNS.

8.1.5.5. Drug addiction, tolerance and hypersensitive reactions.

8.1.5.6. General and local anesthetics, hypnotics, analeptics, and & tranquilizers.

8.1.5.7. Chemotherapeutics and antibiotics.

8.1.5.8. Analgesics and Anti -pyretics.

8.1.5.9. Antiseptics, Sialogogues, and Anti -Sialogogues.

8.1.5.10. Haematinics.

8.1.5.11. Antacids.

8.1.5.12. Antiviral drugs.

8.1.5.13. Anti -diabetics.

8.1.5.14. Vitamins -A B Complex, C, D, E, K.

8.1.5.15. Steroids.

## **8.2 PAPER II: DIFFERENTIAL DIAGNOSIS, DIAGNOSTIC METHODS & ORAL AND MAXILLOFACIAL RADIOLOGY**

### **8.2.1. DIFFERENTIAL DIAGNOSIS AND DIAGNOSTIC METHODS:**

8.2.1.1 Introduction

8.2.1.2. General Principles of Differential Diagnosis.

8.2.1.3. History and Examination of the patient.

8.2.1.4. Correlation of Gross Structure and Microstructure with Clinical features.

8.2.1.5. The diagnostic sequence.

8.2.1.6. Soft Tissue Lesions:

8.2.1.6.1. Solitary red lesions.

8.2.1.6.2. Generalized Red Conditions and Multiple Ulcerations.

8.2.1.6.3. Red Conditions of the Tongue.

8.2.1.6.4. White lesions of the Oral Mucosa.

8.2.1.6.5. Red and White lesions.

8.2.1.6.6. Peripheral Oral Exophytic lesions.

8.2.1.6.7. Solitary Oral Ulcers and Fissures.

8.2.1.6.8. Intraoral Brownish, Bluish, or Black Conditions.

8.2.1.6.9. Pits, Fistulae and Draining Lesions.

8.2.1.6.10. Yellow conditions of the oral mucosa.

8.2.1.7 Bony Lesions -

8.2.1.7.1. Radiolucencies of the Jaws -

8.2.1.7.1.1. Anatomic Radiolucencies.

8.2.1.7.1.2 Periapical Radiolucencies.

8.2.1.7.1.3. Pericoronal Radiolucencies.

8.2.1.7.1.4. Interradicular Radiolucencies.

8.2.1.7.1.5. Solitary Cyst like Radiolucencies not necessarily contacting teeth.

8.2.1.7.1.6. Multilocular Radiolucencies.

8.2.1.7.1.7. Solitary Radiolucencies with Ragged and Poorly Defined Borders.

8.2.1.7.1.8. Multiple Separate, Well defined Radiolucencies

8.2.1.7.1.9 Generalized rarefactions of the jaw bones.

8.2.1.7.2 Mixed Radiolucent – Radiopaque Lesions of the Jaws -

8.2.1.7.2.1. Mixed Radiolucent – Radiopaque lesions associated with teeth.

8.2.1.7.2.2. Mixed Radiolucent – Radiopaque lesions not necessarily contacting teeth.

- 8.2.1.7.3 Radiopacities Of The Jaw Bones -
  - 8.2.1.7.3.1. Anatomic Radiopacities of the jaws
  - 8.2.1.7.3.2. Periapical Radiopacities
  - 8.2.1.7.3.3. Solitary Radiopacities not necessarily contacting teeth
  - 8.2.1.7.3.4. Multiple separate Radiopacities
  - 8.2.1.7.3.5. Generalized Radiopacities
- 8.2.1.7.4. Lesions By Region-
  - 8.2.1.7.4.1. Masses in the Neck
  - 8.2.1.7.4.2. Lesions of the Facial Skin
  - 8.2.1.7.4.3. Lesions of the Lips
  - 8.2.1.7.4.4. Intraoral Lesions by Anatomic Region e.g. Palate, Floor of mouth etc.
- 8.2.1.7.5. Diagnostic Methods and Normal values for Laboratory tests
  - 8.2.1.7.5.1. Methods of clinical diagnosis of oral and systemic diseases as applicable to oral tissue including modern diagnostic techniques
  - 8.2.1.7.5.2. Laboratory investigations including special investigations of oral and oro – facial diseases

## **8.2.2 ORAL AND MAXILLOFACIAL RADIOLOGY:**

- 8.2.2.1. Basics of Radiology –
  - 8.2.2.1.1. History of Radiology
  - 8.2.2.1.2. Structure of x-ray tube
  - 8.2.2.1.3. Production and properties of x-rays.
  - 8.2.2.1.4. Units of radiation
- 8.2.2.2. The Physics Of Ionizing Radiation -
  - 8.2.2.2.1. Radiation Physics
- 8.2.2.3. Biologic Effects Of Radiation -
  - 8.2.2.3.1. Radiation Biology
- 8.2.2.4. Radiation Safety And Protection -
  - 8.2.2.4.1. Health Physics
- 8.2.2.5. Imaging Principles And Techniques -
  - 8.2.2.5.1. X-Ray Film, Intensifying Screens, Filtration of collimation and Grids
  - 8.2.2.5.2. Projection Geometry
  - 8.2.2.5.3. Processing of Image In radiology
  - 8.2.2.5.4. Design of x -ray dept., dark room & use of automatic processing units
  - 8.2.2.5.5. Localization by radiographic techniques.

- 8.2.2.5.6. Faults of dental radiographs and concept of ideal radiograph
- 8.2.2.5.7. Radiographic Quality Assurance and Infection Control
- 8.2.2.5.8. Intraoral Radiographic Techniques
- 8.2.2.5.9. Normal Radiographic Anatomy
- 8.2.2.5.10. Panoramic Imaging
- 8.2.2.5.11. Extra oral Imaging techniques
- 8.2.2.5.12. Digital Imaging
- 8.2.2.5.13. Advanced imaging technique like CT, MRI, Ultrasound & Thermography
- 8.2.2.5.14. Radionuclide techniques.
- 8.2.2.5.15. Contrast radiography in Salivary gland, TMJ & other Radiolucent pathologies.
- 8.2.2.5.16. Guidelines for Prescribing Dental Radiographs
- 8.2.2.5.17. Art of radiographic report, writing and descriptors preferred in reports.
- 8.2.2.6. Radiographic Interpretation Of Pathology
  - 8.2.2.6.1. Principles of Radiographic Interpretation
  - 8.2.2.6.2. Dental Caries
  - 8.2.2.6.3. Periodontal Diseases
  - 8.2.2.6.4. Dental Anomalies
  - 8.2.2.6.5. Inflammatory Lesions of the Jaws
  - 8.2.2.6.6. Cysts of the Jaws
  - 8.2.2.6.7. Benign Tumors of the Jaws
  - 8.2.2.6.8. Malignant Lesions of the Jaws
  - 8.2.2.6.9. Diseases of Bone Manifested in the Jaws.
  - 8.2.2.6.10. Systemic Diseases Manifested in the Jaws.
  - 8.2.2.6.11. Diagnostic Imaging of the Temporo-mandibular Joint.
  - 8.2.2.6.12. Paranasal Sinuses.
  - 8.2.2.6.13. Soft Tissue Calcification and Ossification.
  - 8.2.2.6.14. Trauma to Teeth and Facial Structures.
  - 8.2.2.6.15. Developmental Disturbances of the Face and Jaws.
  - 8.2.2.6.16. Salivary Gland Radiology.
  - 8.2.2.6.17. Orofacial Implants.
- 8.2.2.7. Radiography In Forensic Odontology
  - 8.2.2.7.1. Radiographic Age Estimation
  - 8.2.2.7.2. Post-Mortem Radiographic Methods.
- 8.2.2.8. Principles And Complications Of Radiotherapy Of Oro-Facial Malignancies
- 8.2.2.9. Knowledge Of Radio-Active Isotopes

## **8.3 PAPER III: ORAL MEDICINE, THERAPEUTICS & LABORATORY INVESTIGATIONS**

8.3.1. Introduction and History of Oral Medicine.

8.3.2. Principles Of Diagnosis -

8.3.2.1. The Practice of Oral Medicine

8.3.2.2. Evaluation of the Dental Patient: Diagnosis and Medical Risk Assessment

8.3.2.3. Maxillofacial Imaging

8.3.3. Diagnosis And Management Of Oral Diseases -

8.3.3.1. Ulcerative, Vesicular, and Bullous Lesions.

8.3.3.2. Red and White Lesions of the Oral Mucosa.

8.3.3.3. Pigmented Lesions of the Oral Mucosa.

8.3.3.4. Benign Tumors of the Oral Cavity.

8.3.3.5. Oral Precancer

8.3.3.6. Oral Cancer.

8.3.4. Oral Manifestations of Systemic Diseases -

8.3.5. Principles Of Medicine -

8.3.5.1. Diseases of the Respiratory Tract

8.3.5.2. Diseases of the Cardiovascular System.

8.3.5.3. Diseases of the Gastrointestinal Tract

8.3.5.4. Renal Disease

8.3.5.5. Hematologic Diseases

8.3.5.6. Bleeding and Clotting Disorders.

8.3.5.7. Immunologic Diseases

8.3.5.8. Transplantation Medicine

8.3.5.9. Infectious Diseases

8.3.5.10. Diabetes Mellitus.

8.3.5.11. Endocrine Disease.

8.3.5.12. Neuromuscular Diseases.

8.3.5.13. Geriatrics.

8.3.6. Hematological, Dermatological, Metabolic, Nutritional, & Endocrinal conditions with oral manifestations.

8.3.7. Orofacial Pain.

8.3.8. Congenital and Hereditary disorders involving tissues of oro-facial region.

8.3.9. Systemic diseases due to oral foci of infection.

8.3.10. Neuromuscular diseases affecting oro-facial region.

8.3.11. Salivary Gland disorders.

- 8.3.12. Tongue in Oral and Systemic diseases.
- 8.3.13. TMJ dysfunction and diseases
- 8.3.14. Sexually Transmitted Diseases
- 8.3.15. Allergy and other miscellaneous conditions
- 8.3.16. Psychosomatic aspects of oral diseases
- 8.3.17. Management of medically compromised patients including medical emergencies in the dental practice.
- 8.3.18. Maxillary Sinus Disorders.
- 8.3.19. Forensic Odontology -
  - 8.3.19.1. Medico legal aspects of Orofacial injuries
  - 8.3.19.2 Identification of Bite marks.
  - 8.3.19.3. Determination of Age and Sex
  - 8.3.19.4. Identification of cadavers by Dental Appliances, Restorations and Tissue Remnants
  - 8.3.19.5. Role of Dentist in Forensic Science
- 8.3.20. Therapeutics in oral medicine – clinical pharmacology
- 8.3.21. Computers in oral diagnosis and imaging
- 8.3.22. Evidence based oral care in treatment planning
- 8.3.23. Harmful oral Habits and its Intervention skill and knowledge
- 8.3.24. Ethics in Dentistry

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## **BOOKS RECOMMENDED :**

### **I. ORAL DIAGNOSIS, ORAL MEDICINE & ORAL PATHOLOGY**

1. Burkit – Oral Medicine – J.B. Lippincott Company
2. Coleman – Principles of Oral Diagnosis – Mosby Year Book
3. Jones – Oral Manifestations of Systemic Diseases – W.B. Saunders company
4. Mitchell – Oral Diagnosis & Oral Medicine
5. Kerr – Oral Diagnosis
6. Miller – Oral Diagnosis & Treatment
7. Hutchinson – Clinical Methods
8. Oral Pathology – Shafers
9. Sonis.S.T., Fazio.R.C. and Fang.L - Principles and practice of Oral Medicine
10. Goaz & Wood – Differential Diagnosis of Oral & Maxillofacial Lesions.
11. S.N.Bhaskar -- Synopsis of Oral Pathology
12. H.M.Worth – Principles and Practice of Radiographic Interpretation
13. William Young- Atlas of Oral Pathology
14. Fali Mehta-Tobacco related Oral Mucosal Lesions and Conditions
15. S.N.Bhaskar -- Radiographic Interpretation for the Dentist
16. Dr Anil Ghom-Text book of Oral Medicine

### **II. ORAL AND MAXILLOFACIAL RADIOLOGY**

1. White & Goaz – Oral Radiology – Mosby year Book
2. Wuehrmann – Dental Radiology – C.V. Mosby Company
3. Stafne – Oral Roentgenographic Diagnosis – W.B.Saunders Co.,



4. Dr Anil Ghom-Text book of Oral Rdiology

5. McCall & Wald—Clinical Dental Roentgenology, Technique & Interpretation

### **III. FORENSIC ODONTOLOGY**

1. Derek H.Clark –Practical Forensic Odontology - Butterworth-Heinemann (1992)

2. C Michael Bowers,Bell –Manual of Forensic Odontology-Forensic Pr(1995)

AND MANY MORE

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## **PRACTICALS / CLINICALS:**

1. The Student is Trained to arrive at Proper Diagnosis by following a Scientific and Systematic procedure of History taking and Examination of the Oro-facial region. Training is also imparted in management wherever possible. Training also shall be imparted on Advanced and Specialized diagnostic procedures.
2. Training shall be imparted in various Radiographic procedures, Interpretation of Radiographs and Specialized imaging techniques.
3. The Postgraduate student should Observe, Assist and Perform Procedural and Operative Skills under Supervision of MDS Teacher / Staff.
4. In view of the above, Each student shall maintain a Record of work done, which shall be **Evaluated at the time of University Practical examination**

### 5. Monitoring Learning Progress-

It is essential to monitor the learning progress of each student through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring should be done by the Postgraduate staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment should be done using checklists that assess various aspects.

6. Other than the routine daily OPD and Radiographs taking procedure, The following is the Minimum Prescribed work to be completed and Recorded in the Log / Record Book before appearing in the subject at the University Examination. The Academic and Clinical work record as well as the Radiographs should be preserved in good condition and shall be produced at the time of Final MDS Practical Examination.

Minimum Requirement of Academic & Clinical Work to be carried out by the Postgraduate (MDS) Student of Oral Medicine, Diagnosis And Radiology in Each Year

Sr. No.	Particulars	FIRST YEAR	SECOND YEAR	THIRD YEAR
1	Seminar	10	10	05
2	Case Presentation	10	10	05
3	Journal Article Presentation	10	10	05
4	Research Project / Study	01	01	01
5	Library Dissertation	01	-	-
6	Case History Recording	100	100	50
7	IOPA Perform & interpretation	500	500	100
8	Other Intra oral Radiographs			
	Bitewing View	50	50	50
	Occlusal View	50	50	50
9	RVG of Important cases	50	50	50
10	Extra oral Radiographs of Important cases	50	50	100
11	Digital / Advance Imaging of Important cases	20	20	20
12	Long case History (major)	25	25	25
13	Short case History (minor)	25	25	25
14	Biopsy-Incisional / Excisional	50	50	50
15	FNAC	50	50	50
16	Administration of intra -muscular and intravenous injections	05	10	10
17	Administration of oxygen and life saving drugs to the patients	02	05	05
18	Clinical Demonstrations to Third and Fourth Year BDS Students	10	10	10
19	Lectures for Third and Fourth Year BDS Students	10	10	10
20.	Dental Cast/Model preparations	05	-	-
21.	Main Dissertation	-	01	-
22.	IAOMR Conference	01	01	01
23.	National PG Symposium	01	01	01
24.	Other Conferences/ Symposium/ Update (Optional)	01	01	01
25.	Paper Presentation in conferences	01	01	01
26.	Chart / Model Display in Conferences	01	01	01
27.	Article Publication in National / International Journal	01	01	01

***The allied postings of MDS students(II Year) in other Medical Departments shall be as follows:***

- 1) Department of General Radiology-One Month  
\*Basic training of CT,MRI,USG,Contrast Radiography
- 2) Department of General Medicine-One Month
- 3) Department of Skin-One Month
- 4) Department of Radiotherapy-One Month
- 5) Department of Physiotherapy-15 Days  
\*Basic training of TENS,short wave diathermy etc

