

JODHPUR DENTAL COLLEGE GENERAL HOSPITAL

Department Of Periodontolgy And Implantology

1. SYLLABUS (1 YR M.D.S.)

Human Values, Ethical Practice and Communication Abilities

The training program in Periodontics is structured to achieve the following objectives:

- To acquire adequate knowledge and understanding of the etiology, patho-physiology and diagnosis, treatment planning of various periodontal problems.
- To be able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in periodontal problems.
- Essential knowledge of personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste keeping in view the high prevalence hepatitis and HIV.
- To perform with competence minor perio-surgical procedures; to surgically and medically treat periodontal disease.
- To be willing to adopt new techniques of surgical management developed from time to time based on scientific research which in the best interest of patients.
- Respect patients rights and privileges, including patients' right to information and right to seek a second opinion.

COURSE CONTENTS:

Applied Anatomy:

1. Development of Periodontium.
2. Micro and Macro structural anatomy and biology of the periodontal tissues.
3. Age changes in the periodontal tissues.
4. Anatomy of the Periodontium.
 - Macroscopic & Microscopic anatomy.
 - Blood supply of the Periodontium.
 - Lymphatic system of the Periodontium.
 - Nerves of the Periodontium.

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5. Temporomandibular joint, Maxillae & Mandible.
6. Nerves of Periodontics.
7. Tongue, Oropharynx.
8. Muscles of Mastication.

Physiology:

1. Blood
2. Respiratory system – Acknowledge of the respiratory diseases which are cause periodontal diseases (Periodontal Medicine).
3. Cardiovascular System.
 - Blood Pressure
 - Normal ECG
 - Shock
4. Endocrinology – Hormonal influences on Periodontium.
5. Gastrointestinal System.
 - Salivary Secretion – Composition, Function & Regulation.
 - Reproductive Physiology.
 - Hormones – Actions & Regulations, functions & Regulations.
 - Family Planning Methods
6. Nervous System
 - Pain Pathways
 - Taste – Taste Buds, Primary Taste Sensation & Pathways of Sensation.

Biochemistry:

1. Basics of Carbohydrates, Lipids, Proteins, Vitamins, Enzymes & Minerals.
2. Diet & Nutrition and Periodontium.
3. Biochemical tests and their significance.
4. Calcium and Phosphorus.

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Pathology:

1. Cell structures & Metabolism
2. Inflammation and repair, necrosis and degeneration.
3. Immunity & Hypersensitivity.
4. Circulatory Disturbances – edema, hemorrhage, shock, thrombosis, embolism, infarct and hypertension.
5. Disturbances of nutrition.
6. Diabetes Mellitus.
7. Cellular growth & differentiation, regulation.
8. Lab Investigations
9. Blood

Microbiology:

1. General Bacteriology
 - Identification of bacteria
 - Cultural media & methods
 - Sterilization & Disinfection
2. Immunology & Infection
3. Systemic Bacteriology with special emphasis on oral microbiology – staphylococci, actinomyces and other filamentous bacteria and actinobacillus actinomycetumcomitans.
4. Virology
 - General properties of virus
 - Herpes hepatitis, virus, HIV virus
5. Mycology
 - Candidiasis
6. Applied microbiology
7. Diagnostic microbiology and immunology, hospital infections and managements.

Pharmacology:

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1. General Pharmacology
 - Definitions
 - Adverse Drug Reactions & Drug Interactions.
2. Detailed pharmacology of
 - Analgesics
 - Local Anaesthesia
 - Haematinics & Coagulants , Anticoagulants
 - Vit. D and Calcium preparations
 - Antidiabetics drugs
 - Steroids
 - Antibiotics
 - Antihypertensive
 - Immunosuppressive drugs and their effects on oral tissues
 - Antiepileptic drugs
3. Brief pharmacology, dental use and adverse effects of
 - General Anaesthesia
 - Antipsychotics
 - Antidepressants
 - Antixiolytic drugs
 - Sedatives
 - Antiepileptics
 - Antihypertensives
 - Antianginal drugs
 - Diuretics
 - Hormones
 - Pre-anesthetic medications
4. Drugs used in bronchial asthma cough
5. Drug therapy of
 - Emergencies

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- Seizures
 - Anaphylaxis
 - Bleeding
 - Shock
 - Diabetic ketoacidosis
 - Acute addisonian crisis
6. Dental pharmacology
- Antiseptics
 - Astringents
 - Sialogogues
 - Disclosing agents
 - Antiplaque agents
7. Fluoride pharmacology

Biostatistics:

1. Introduction, definition and branches of biostatistics.
2. Collection of data, sampling, types, bias and errors.
3. Compiling data-graphs and charts
4. Measures of central tendency (mean, median and mode), standard deviation and variability.
5. Tests of significance
6. Null hypothesis.

SYLLABUS (II YR M.D.S.)

Periodontology

1. Examination, diagnosis and treatment plan
2. Classification of periodontal disease and conditions
3. Epidemiology of gingival and periodontal diseases
4. Defence mechanism of gingiva
5. Periodontal microbiology

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6. Basic concept of inflammation & immunity
7. Microbial interaction with the host in periodontal diseases
8. Pathogenesis of plaque associated periodontal diseases
9. Dental calculus
10. Role of iatrogenic and other local factors
11. Genetic factors associated with periodontal diseases
12. Influences of systemic diseases and disorders of Periodontium
13. Role of environmental factors in the etiology of periodontal diseases
14. Stress and periodontal diseases
15. Occlusion and periodontal diseases
16. Smoking and tobacco in the etiology of periodontal diseases
17. AIDS and Periodontium
18. Periodontal medicine
19. Dental hypersensitivity

Clinical and therapeutic Periodontology and Implantology

It includes:

Gingival Diseases

1. Gingival inflammation
2. Clinical features of gingiva
3. Gingival enlargement
4. Acute gingival infections
5. Gingival diseases in childhood
6. Desquamative gingivitis and oral mucosa membrane diseases

Periodontal Diseases

1. Periodontal pocket
2. Bone loss and patterns of bone loss
3. Periodontal response to external forces

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4. Masticatory system disorder
5. Chronic periodontitis
6. Aggressive periodontitis
7. Interdisciplinary approaches
8. Periodontic consideration in periodontal therapy

Treatment of Periodontal Disease

A. HISTORY, EXAMINATION,DIAGNOSIS,PROGNOSIS AND TREATMENT PLANNING

1. Clinical diagnosis
2. Radiographic and other aids in the diagnosis of periodontal diseases
3. Advanced diagnostic techniques
4. Risk assessment
5. Determination of prognosis
6. Treatment plan
7. Rationale for periodontal treatment
8. General principles of anti-infective therapy with special emphasis on infection control on periodontal practice.
9. Halitosis and its treatment
10. Bruxism and its treatment

B. PERIODONTAL INSTRUMENTATION

1. Instrumentation
2. Principles of instrumentation
3. Instruments used in different parts of the mouth

C. PERIODONTAL THERAPY

1. Preparation of tooth surface
2. Plaque control
3. Antimicrobial and other drugs used in periodontal therapy and wasting diseases of teeth
4. Periodontal management of HIV infected patients

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5. Occlusal evaluation and therapy in the management of periodontal diseases
6. Role of orthodontics as an adjunct to periodontal therapy
7. Special emphasis on precautions and treatment for medically compromised therapy
8. Periodontal splints
9. Management of dentinal hypersensitivity.

SYLLABUS (FINAL YEAR MDS)

PERIODONTAL SURGICAL PHASE

1. General principles of periodontal surgery
2. Surgical anatomy of Periodontium and related structures
3. Gingival curettage
4. Gingivectomy techniques
5. Treatment of gingival enlargement
6. Periodontal flap
7. Osseous surgery – Resective & Regenerative
8. Furcation : Problems & Management
9. The periodontic-endodontic continuum
10. Recent advances in surgical techniques

FUTURE DIRECTION AND CONROVERSIES

1. Future directions for infection control
2. Research direction in regenerative therapy
3. Future direction in anti-inflammatory therapy
4. Future directions in measurement of periodontal therapy

PERIODONTAL MAINTENANCE PHASE

1. Supportive Periodontal Therapy
2. Results of periodontal treatment

Oral Implantology

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1. Introduction and historical review
2. Biological, clinical and surgical aspects of dental implants
3. Diagnosis and treatment planning
4. Implant surgery
5. Prosthetic aspects of dental implants
6. Diagnosis and treatment of periimplant complications
7. Special emphasis on plaque control measures implant patients
8. Maintenance Phase

Management of Medical Emergencies In Periodontal Practice

2. TEACHING / LEARNING ACTIVITIES:

The following is the minimum required to be completed before the candidate can be considered eligible to appear for final MDS exam.

1st year MDS

PRE CLINICAL WORK

Dental

1. Practice of incision and suturing techniques on the typhodont models
2. Fabrication of bite guards and splints
3. Occlusal adjustments on the cast mounted on the articulator
4. X-ray techniques and interpretations
5. Local anaesthetic techniques

Medical

1. Basic diagnostic microbiology and immunology, collection and handling of sample, culture techniques.
2. Basic understanding of immunological disease
3. Interpretation of various biochemical investigations

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4. Practical training and handling medical emergencies and basic life support devices.
5. Basic biostatistics - surveying and data analysis.

3. CLINICAL WORK:

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|-----------------------------------|----------|
| 1. Applied periodontal indices | 10 cases |
| 2. Scaling & root planning | |
| a. Hand | 30 cases |
| b. Ultrasonic | 15 cases |
| 3. Curettage | 20 cases |
| 4. Gingivectomy and Gingivoplasty | 5 cases |

Presentation of:

- Seminars – 5 seminars by each student – should include topics in basic science and Periodontology.
- Journal clubs – 5 by each student
- Submission of synopsis at the end of 6 months
- Library assignment work

Internal assessment – theory and clinicals.

Case discussion- 5

Library assignments – to be submitted at the end of the first year

II year

- | | |
|--|----------|
| 1. Case history and treatment planning | 10 cases |
| 2. Local drug delivery techniques | |
| 3. Periodontal surgical procedures | 40 cases |
| • Pocket therapy | |
| • Mucogingival surgeries | |
| • Implants (2 implants) | |
| • Management of perio-endo problems | |
| • Depigmentation | |

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- Gingival Veneers
- Crown lengthening
- Disto molar surgeries

4. Occlusal adjustments 10 cases
5. Perio splints 10 cases

- Under graduate teaching program as allotted by the HOD
- Seminars – 5 by each student
- Journal club – 5 by each student
- Dissertation work
- Prepare scientific paper and present in conference and clinical meeting
- Internal assessment – theory and clinical

III year

CLINICAL WORK:

1. Periodontal surgical procedures.
2. Regenerative Technique cases (Using various graft and barrier membranes).
3. Record, maintenance and follow up of all treated cases including implants.

Presentation of:

- Seminars- 5 by each student
- Journal club- 5 by each student
- Teaching – lecture (under graduates)
- Internal assessment – theory and clinical

Dissertation work to be submitted 6 months before final examination.

4. Conferences

- a. To attend two national specialty conferences and one convention during the course

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- b. To present two poster and two paper at a national level conference
- c. To attend continuing dental education pertaining to the specialty

5. Submission

- a. Synopsis presentation – at the end of 6 months
- b. Preclinical work- end of six months from the commencement of the course
- c. Library dissertation- end of 12 months
- d. Dissertation-six months prior to main examination

6. Examination Pattern

Theory – Total marks 300

- a. Paper 1- 75
 - b. Paper 2- 75
 - c. Paper 3- 75
 - d. Paper 4- 75
1. Written examination should consist of 4 question papers each of 3 hours duration.
 2. Total marks of each paper will be 75.
 3. Paper IV will be on essay.
 4. Questions on recent advances may be asked in any or all the papers.
 5. Distribution of topics for each paper will be as follows:

PAPER I: Applied basic Sciences: Applied Anatomy, Physiology & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

PAPER II: Normal Periodontal structures, Etiology & Pathogenesis of periodontal diseases, epidemiology as related to Periodontics.

PAPER III: Periodontal Diagnosis, therapy & Oral Implantology

PAPER IV: Essay {with emphasis on recent advances in Periodontics}

PRACTICAL / CLINICAL EXAMINATION: 200 MARKS

The clinical examination shall be of two duration.

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1st DAY

CASE DISCUSSION:

- Long Case – One
- Short Case – One

Periodontal Surgery – Periodontal Flap Surgery on a previously prepared case in one quadrant of the mouth after getting approval from the examiners.

2nd DAY

- Post –surgical review and discussion of the case treated on 1st day.
- Presentation of Dissertation & Discussion.
- All the examiners shall participate in all the aspects of the clinical examinations / viva voce.

Distribution of marks for clinical examination (recommended)

a. Long Case Discussion	50
b. 2 Short Cases	50
c. Periodontal Surgery	75
d. Post Operative Review	25
Total	200

VIVA VOCE: 100 Marks

i. VIVA VOCE EXAMINATION – 80 MARKS

All examiners will conduct viva-voce conjointly on candidate comprehension, analytical approach, expression, interpretation of data and communication skills. It includes all components of course content. It includes presentation and discussion on dissertation also.

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ii. PEDAGOGY : 20 MARKS

A topic is given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.