

PERIODONTICS

GOAL

- To train the postgraduate efficiently and effectively, backed by scientific knowledge and skill in Periodontology.

OBJECTIVES

To achieve a high degree of clinical proficiency in the subject matter and develop competence in research and its methodology in Periodontology.

The above objectives are achieved by

1. Knowledge
2. Skills
3. Human values, ethical practice and communication abilities

a) KNOWLEDGE

Discuss historical perspective to advancement in the subject proper and related topics

1. Describe etiology, pathogenesis, diagnosis and management of common periodontal diseases with emphasis on Indian population
2. Familiarize with the biochemical, microbiologic and immunologic genetic aspects of periodontal pathology
3. Describe various preventive periodontal measures
4. Describe various treatment modalities of periodontal disease from historical aspect to currently available ones
5. Describe interrelationship between periodontal disease and various systemic conditions
6. Identify rarities in periodontal disease and environmental/ Emotional determinates in a given case
7. Update him by attending course, conferences and seminars relevant to periodontics or by self-learning process.
8. Plan out/ carry out research activity both basic and clinical aspects with the aim of publishing his work in scientific journals
9. Reach to the public to motivate and educate regarding periodontal disease, its prevention and consequences if not treated
10. Plan out epidemiological survey to assess prevalence and incidence of early onset periodontitis and adult periodontitis in Indian population (Region wise)
11. Shall develop knowledge, skill in the science and practice of oral implantology.
12. Shall develop teaching skill in the field of periodontology and Oral Implantology.

b) SKILLS

1. Take a proper clinical history, thorough examination of intra orally, extra orally, medical history evaluation, advice essential diagnostic procedures and interpret them to come to a reasonable diagnosis
2. Effective motivation and education regarding periodontal disease maintenance before and after the treatment.
3. Perform non-surgical, surgical and education regarding periodontal disease, maintenance after the treatment
4. Provide Basic Life Support Service (BLS) recognizes the need for and advance life support and does the immediate need for that.

HUMAN VALUES, ETHICAL PRACTICE AND COMMUNICATION ABILITIES

Adopt ethical principles in all aspects of treatment modalities. Professional honesty and integrity are to be fostered. Develop communication skills to make awareness regarding periodontal disease. Apply high moral and ethical standards while carrying out human or animal research. Be humble, accept the limitations in knowledge and skill, and ask for help from colleagues when needed Respect patient's rights and privileges, including patient's right to information and right to seek a second opinion.

COURSE CONTENTS

FIRST YEAR

I) Applied Anatomy

1. Development of the 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.
 - a. Macroscopic and microscopic anatomy.
 - b. Blood supply of the Periodontium.
 - c. Lymphatic system of the Periodontium.
 - d. Nerves of the Periodontium.
5. Temporomandibular joint, Maxilla and Mandible.
6. Cranial nerves (V, VII, IX, XI, and XII)
7. Tongue and oropharynx.
8. Muscles of mastication.

II) Applied Physiology

1. Blood.
2. Respiratory system - respiratory diseases related to periodontal diseases.
3. Cardiovascular system - blood pressure and Shock.
4. Endocrinology - hormonal influences on Periodontium.
5. Gastro-Intestinal System (GIT) - salivary secretion - composition, function and regulation.
6. Reproductive physiology - hormones – actions, regulations and role in periodontal disease.
7. Nervous system – pain pathways.

III) Applied Biochemistry

1. Basics of carbohydrates, lipids, vitamins, proteins, enzymes and minerals.
2. Diet and nutrition.
3. Calcium and phosphorus.
4. Biochemical tests and their significance.

IV) Applied Pathology

1. Cell structure and metabolism.
2. Cellular growth and differentiation and regulation.
3. Inflammation, repair, necrosis and degeneration.
4. Immunology.
5. Circulatory disturbances - edema, hemorrhage, shock, thrombosis, embolism, infarction and hypertension.
6. Disturbances of nutrition.
7. Endocrinal influences on periodontal disease.
8. Hematological disorders.
9. Laboratory investigations

V) Applied Microbiology

1. General bacteriology
 - a. Identification of bacteria
 - b. Culture media and methods
 - c. Sterilization and disinfection
2. Systemic bacteriology with special emphasis on oral microbiology
3. Virology
4. Mycology
5. Applied microbiology
6. Diagnostic microbiology, immunology, hospital infections and management

VI) Applied Pharmacology

1. General pharmacology
 - a. Definitions - Pharmacokinetics with clinical applications, routes of administration including local drug delivery in Periodontics.
 - b. Adverse drug reactions and drug interactions
2. Pre anesthetic medications.
3. Detailed pharmacology of, dental use and adverse effects of
 - a. Analgesics - opioid and nonopioid.
 - b. Local anesthetics.
 - c. Haematinics, coagulants and anticoagulants.
 - d. Vitamin D and Calcium.
 - e. Anti diabetic, Antiepileptic and Antihypertensive drugs.
 - f. Steroids.
 - g. Antibiotics.
 - h. Immunosuppressive drugs and their effects on oral tissues.
4. Drug therapy of
 - a. Emergencies.
 - b. Seizures.
 - c. Anaphylaxis.
 - d. Bleeding.
 - e. Shock.
 - f. Diabetic ketoacidosis.
 - g. Acute Addisonian crisis.
5. Dental Pharmacology
 - a. Antiseptics.
 - b. Astringents.
 - c. Sialogogues.
 - d. Disclosing agents.
 - e. Antiplaque agents.

VII) Applied 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 (chi square test 't' test and Z-test)
6. Null hypothesis

VIII) Gingival and periodontal diseases

This is minimum basic syllabus mentioned but however a candidate should know the related aspect of same.

PRACTICALS

- A) History, examination, diagnosis, prognosis and treatment planning
- a) Clinical diagnosis
 - b) Radiographic and other aids in the diagnosis of periodontal diseases
 - c) Advanced diagnostic techniques
 - d) Risk assessment
 - e) Determination of prognosis
 - f) Treatment plan.
 - g) Periodontal instrumentation
 - h) Instrumentation
 - i) Principles of periodontal instrumentation
 - j) Plaque control
 - k) Anti microbial therapy.
 - l) Management of medical emergencies in periodontal practice
- m) **BIOPSY**
- ❖ **Microscopy.**
 - ❖ **Basic staining procedures.**
 - ❖ **Laboratory investigations.**
 - ❖ **Histology of hard and soft tissue.**

This is basic requirement, however a student needs to know all the related aspects of the above mentioned topics.

Approach

1. Lectures.
2. Discussions.
3. Clinical demonstration.
4. Posting- ORAL PATHOLOGY and ORAL MEDICINE.

SECOND YEAR

I)

1. Periodontal microbiology, Microbial interactions with host in periodontal disease.
2. Basic concepts of inflammation and immunity in periodontal disease.
3. Epidemiology of gingival and periodontal diseases.
4. Defense mechanisms of gingiva.
5. Classification of periodontal diseases – gingival disease and periodontal disease.
6. Genetic factors associated with periodontal diseases.
7. Influence of systemic diseases and disorders of the periodontium.
8. Role of environmental factors in the etiology of periodontal disease.
9. Stress and periodontal diseases.
10. Occlusion.
11. Para-functional habits in periodontal disease.
12. AIDS and Periodontium.
13. Periodontal medicine.
14. Oral Malodor.
15. Dentinal hypersensitivity.
16. Evidence based Aerodontics.
17. Advanced diagnostic aids.

II) Practicals

1. Rationale for periodontal treatment
2. General principles of periodontal surgery
3. Surgical anatomy of periodontium and related structures
 - a. Gingival curettage.
 - b. Minor periodontal surgeries- Polyp excision, frenectomy, Operculectomy, depigmentation, Crown lengthening.
 - c. Gingivectomy technique.
 - d. Treatment of gingival enlargements.
 - e. Periodontal flap.

This is basic minimum requirement, however a student needs to know all the related aspects of the above mentioned topics.

Approach

1. Lectures.
2. Discussions.
3. Clinical demonstration.

THRID YEAR

I) Theory and Practicals

1. Periodontal splints.
2. Osseous surgery (resective and regenerative).
3. Fraction; Problem and its management.
4. Periodontic / Orthodontic / Prosthodontic and Endodontic related problems and their therapy.
5. Periodontic plastic and esthetic surgery.
6. Recent advances in surgical techniques.

II) Oral Implantology

1. Introduction and historical review.
2. Biological, clinical and surgical aspects of dental implants.
3. Diagnosis and treatment planning.
4. Periodontal and functional aspects of dental implants.
5. Special emphasis on plaque control.
6. Complication and management.

ACADEMIC REQUIREMENTS OF THE COURSE

Sl. No.	Work	Quota
1	Seminars	15
2	Journal clubs	25
3	Case presentation	25
4	Undergraduate classes	2
5	Dental camps	2
6	Scientific poster presentation	2
7	Scientific Paper Presentation	2
8	Scientific Paper Publication	1
9	Interdepartmental Presentations	1
10	Log book submission	Once in 6 ms
11	Display of academically oriented 'Case of the month'	10
12	Library Dissertation	End of 18 months
13	Dissertation	6 months before university examination

No.	Clinical Work	No. of Cases
1	Case History and Treatment planning	10
2	Scaling and root planning and polishing (SRP) a. Hand b. Ultrasonic c. Pre-clinicals: Suturing techniques	15
3	Curettage	10
4	Polypecision Crown lengthening Depigmentation Operculectomy Gingivectomy and Gingivoplasty	10 15 10 10 30

SCHEME OF UNIVERSITY EXAMINATION

Scheme of Exams (Institutional Level)

- a) First internal assessments at the end of first year
- b) Second Internal assessments at the end of second year
- c) Preliminary exam in the last 6 months.

UNIVERSITY EXAMINATION (Final)

A. THEORY EXAMS : 300 MARKS

PAPER I (BASIC) EXAM: 200 MARKS.

Written exam shall consist of two question papers each of three-hour duration. Total marks of each part will be 75 marks.

Paper 1: Applied Basic Sciences : Applied Anatomy, Applied Physiology, Applied Biochemistry, Applied Pathology, Applied Microbiology, Applied Pharmacology, Research methodology and Biostatistics.

Paper II: Normal periodontal structure, Etiology and Pathogenesis of periodontal diseases, epidemiology s related to periodontics.

Paper III : Periodontal diagnosis, therapy and oral implantology.

Paper IV : Essay (with emphasis on recent advances in periodontics).

B. PRACTICAL / CLINICAL EXAMINATION: 200 MARKS

The clinical examination shall be of two days duration

1st DAY

Case discussion

- Long case - One
- Short cases - Two

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 the 1st day.

Presentation of dissertation and discussion.

All the examiners shall participate in all the aspects of clinical examinations / Viva Voce Distribution of Marks for Clinical examination (recommended).

a) Long Case discussion	060
b) 1 short cases	040
c) Periodontal surgery	075
d) Post - operative review	<u>025</u>
Total	<u>200</u>

C. VIVA VOCE : 100 MARKS

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| a.) VIVA VOCE Examination | 80 MARKS |
| b) Dissertation VIVA | 20 MARKS |

TOTAL MARKS (A+B+C) = 600 MARKS