

I. Global Objectives

By the end of the course the student will be expected to demonstrate:

1. A broad knowledge of sciences basic to periodontology.
2. A broad knowledge of clinical medicine and surgery, in regards to the interactions of periodontal and systemic diseases and of the periodontal management of the medically compromised patient.
3. A broad knowledge of periodontal epidemiology and the role of periodontology in public health dentistry.
4. Intensive knowledge of clinical periodontics.
5. Clinical expertise in the presentation, diagnosis and management of early and moderate periodontal diseases.
6. Clinical expertise in the presentation and diagnosis of advanced periodontal diseases.

Requirements

The periodontal course should be structured in the curriculum in order to be integrated with the basic science courses and with the rest of the dental clinic courses. Therefore, ideally it should not be confined to a predetermined year, but it should be structured throughout different years in the dental curriculum.

II. Specific Objectives

1.Seminars / tutorials

1.1 Subject Matter Course

Detailed information will be given to the students in the form of lectures or structured seminars. The content of the course is listed below. A short list of textbooks should be provided to the students, as well as in specific topics further reading list. This part of the course should be organised in lectures, seminars and group discussions depending on the importance of the given subject.

1.2 Contents

1. Functional anatomy of the periodontium and related structures.
2. Biology of the periodontium and oral physiology.
3. Microbiology of dental plaque.
4. Etiology of plaque associated diseases. The role of local factors.
5. Etiology of plaque associated diseases. The role of systemic factors.
6. Pathogenesis of plaque associated diseases. The role of bacterial pathogens.
7. Pathogenesis of plaque associated diseases. The role of the host response.
8. Progression of plaque associated diseases.
9. Classification of periodontal diseases.
10. Gingivitis. Clinical features and diagnosis.
11. Periodontitis. Clinical features and diagnosis.
12. Pathology of periodontal pockets.
13. Early onset periodontitis.
14. Rapidly progressing and refractory periodontitis.
15. Acute periodontal lesions.
16. Gingival enlargement.
17. Desquamative gingivitis.
18. Periodontal lesions in immunocompromised patients.
19. Clinical periodontal diagnosis.
20. Radiological periodontal diagnosis. Other imaging techniques.
21. Advanced periodontal diagnosis (microbiological, immunological and biochemical).
22. Periodontal therapy. Goals and sequence.
23. Mechanical plaque control. Oral hygiene techniques.
24. Antimicrobial plaque control. Antibiotics and antimicrobials.
25. Basic periodontal therapy.
26. Periodontal instrumentation.
27. Occlusal trauma.
28. Periodontal surgery. General principles.
29. Gingivectomy and local excision. Wound healing.
30. Periodontal flap. Wound healing.
31. Periodontal regeneration. General principles.
32. Treatment of furcation lesions.
33. Mucogingival surgery.
34. Periodontal maintenance therapy.
35. Interrelationships of periodontal disease and therapy with other dental disciplines.
36. Behavioural sciences applied to oral hygiene practices.

37. Epidemiology of periodontal diseases.
38. Public health approach toward periodontal diseases.
39. Treatment of the partially edentulous patient. The role of oral implants.
40. Introduction to biology of osseointegration.
41. Biology of oral tissues around oral implants.
42. Pathogenesis of periimplant tissue pathology.
43. Diagnosis and treatment planning for the placement of oral implants.
44. Radiology and other imaging techniques in the diagnosis of oral implants.
45. Maintenance and long term prognosis of oral implants.

1.3 Objectives

The student:

- Should be familiar with the diverse anatomic and microscopic features of the periodontium and the interrelated functional aspects.
- Must be aware of the physiology of saliva and crevicular fluid. Must be acquainted with the protective role of the gingiva and the biology of the cementum, alveolar bone and periodontal ligament in oral physiology and regeneration.
- Must have knowledge of the composition of plaque and the chemical and microbial structure.
- Must understand the role of plaque accumulation and other local factors in the etiology of periodontal diseases.
- Must understand the role of systemic diseases and deficiencies in the etiology of periodontal diseases.
- Must understand the role of bacteria in the pathogenesis of periodontal tissue destruction.
- Must understand the histopathological development of periodontal diseases and the pathogenic mechanisms of inflammation.
- Must comprehend the immune reactions in the pathogenesis of periodontal diseases and how these lesions progress to deeper tissues.
- Must be able to recognise the various forms of periodontal disease in order to make a diagnosis.
- Must be fully acquainted with the clinical features and diagnosis of both chronic and acute forms of gingivitis and the etiologic factors related to these inflammatory processes.
- Must be fully acquainted with the clinical features and diagnosis of chronic, adult periodontitis, periodontal disease in children and young adults, rapidly progressing periodontitis and the differential diagnosis of these problems.
- Must be acquainted with the different conditions that cause acute periodontal lesions and the differential diagnosis of these problems.
- Must be acquainted with the research showing relationships between drug intake and gingival enlargement. Must understand the pathological changes associated with gingival enlargement.
- Must be acquainted with the different skin and mucosal diseases that may cause desquamative gingival lesions. Must be acquainted with their clinical and pathological features and the differential diagnosis of these problems.
- Must be familiar with the interpretation of both normal and pathological signs of periodontal tissues. Must be aware of periodontal probing techniques as well as other clinical approaches available for detecting changes in periodontal tissues.

- Must be familiar with the interpretation of both normal and pathological structures to be found on radiographs of the oral cavity. The student should be aware of the techniques available for detecting changes in bone height on radiographs.
- Must be aware of new diagnostic approaches available to detect changes in subgingival microflora in host response and changes in the biochemical profile of the gingival crevicular fluid.
- Must be acquainted with the literature pertaining to the effects of oral hygiene, scaling and root planing on inflammatory gingival and periodontal diseases.
- Must be fully acquainted with all available oral hygiene and, scaling and root planing techniques (both with hand and power scaling instruments), their indications and contraindications, advantages and disadvantages, and effectiveness.
- Must have a broad knowledge of the effects and limitations of antimicrobials and antibiotics on the bacteria associated with inflammatory periodontal diseases.
- Must be acquainted with the use of these agents in the treatment of gingivitis and periodontitis.
- Must be familiar with the clinical and histological factors associated with traumatic occlusion and the modifying effects of this problem when combined with inflammatory periodontal disease.
- Must be familiar with the general principles of the various surgical techniques, their indications, advantages and disadvantages, and their effectiveness.
- Must have an understanding of the treatment of furcation problems, the biology of regenerative procedures and their indications in periodontal therapy.
- Must have an understanding of the different mucogingival surgical procedures and their indications in periodontal therapy.
- Must understand the importance of maintenance therapy and evaluation of aftercare.
- Must be aware of the role and interrelationships of periodontal therapy and dental and restorative procedures.
- Must understand the place of adjunctive orthodontic, restorative and prosthetic therapy in the definite phase of therapy.
- Should understand the science and techniques behind alteration of behavioural patterns.
- Must be aware of the epidemiological tools to assess periodontal conditions.
- Must be acquainted with the incidence and prevalence of periodontal diseases in their community and in the world.
- Must be aware of public health and community approaches to provide periodontal services.
- Should have a basic knowledge in the biology and use of different dental implants.
- Must be aware of the different implant materials used, the biology and pathology associated to periimplant tissues and their long term maintenance.
- Must have a broad knowledge in diagnostic approaches headed to implant placement.

2. Patient treatment

2.1 Objectives

- The student must be able to recognise the various forms of periodontal disease in order to make a diagnosis and prepare a treatment plan for each patient.
- Each student is required to fully document each periodontal patient (periodontal charting, indexes, models, etc.) in order to subsequently present these cases for evaluation.

- The student must be able to demonstrate therapeutic skills in basic periodontal therapy: scaling, root planing and maintenance therapy.
- The student must have insight of the treatment of the advanced periodontal case, being acquainted with the different surgical alternatives.
- The student must gain insight of the problems of treatment planning of complex cases (combined problems of periodontal disease plus systemic, restorative and prosthetic considerations) through the comprehensive therapy approach.

2.2 Clinical Requirements

a. Preclinical Training

The student should become familiar with the recommended instruments for initial therapy and should learn how to maintain these instruments. Furthermore, the student should learn the ergonomic aspects of the positioning of these instruments in the mouth. Subsequently, the student should practice the various techniques of periodontal instrumentation in phantom heads.

b. Periodontal Clinic: Initial Therapy

The student:

- Must be able to study the patient's periodontal problems and document them thoroughly.
- Must be able to make a diagnosis and suggest a treatment plan with various alternatives.
- Must be able to carry out the initial therapy - oral hygiene instructions, scaling and root planing (powered and hand instruments).
- Must be able to carry out, together with the basic periodontal therapy, any necessary endodontic and restorative therapy.
- Must have insight of the management of periodontal advanced cases, including problems arising from occlusal trauma and temporomandibular joint dysfunction.
- Must be familiar with periodontal surgical techniques provided with the treatment of advanced periodontal cases.
- Must be able to evaluate the results of his/her own treatment and to carry out any further procedures required to maintain the case, which can be repeated treatment or referral to a specialist.

3. Overview of time (hour) allocation for periodontology during the undergraduate dental curriculum

Category	Hours
Seminars / Tutorials	50 - 80 hr.
Periodontal preclinic and patient's clinics	150 - 180 hr.
Periodontics included in comprehensive therapy	150 - 180 hr.

III. Evaluation

- Students must be assessed on their knowledge and on their clinical performance.
- Proficiency test of diagnosis and periodontal instrumentation should be performed, i.e. in situ instrumentation (patients) and in vitro instrumentation (sharpening, maintenance of all instruments).
- The didactic content should be evaluated by means of written examinations at the end of the periodontal course.