

**COURSE DATA****Data Subject**

Code	34723
Name	Periodontics
Cycle	Grade
ECTS Credits	12.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1206 - Degree in Dentistry	Faculty of Medicine and Odontology	4	Annual

Subject-matter

Degree	Subject-matter	Character
1206 - Degree in Dentistry	23 - Periodontics	Obligatory

Coordination

Name	Department
ALPISTE ILLUECA, FRANCISCO M	131 - Stomatology

SUMMARY

Periodontics is a compulsory subject included in the module of specifically Odontological Pathology and Therapeutics. For the Degree on Odontology this subject has been allocated 12 ECTS credits, with a theoretical-practical approach and clinical practice in patients.

This subject is placed in fourth year because for its good development the student must know the basics on health branch and must be qualified to carry out dental treatments that requires anesthesia or basic surgery, that they must have practice during the previous years. This way, by taking this subject the student will learn how to handle any health problem that affects the periodontium by acquiring the knowledge and basic skills in a clinic that will assure a good profit of the Practicum during the fifth year.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

1206 - Degree in Dentistry :

1210 - Grado de Odontología 2012 :

R4-OBLIGATION TO HAVE SUCCESSFULLY COMPLETED THE COURSE

34696 - Human anatomy

34697 - Biology

34698 - Human physiology

34699 - Biochemistry

34702 - Psychology and communication

34703 - Biostatistics and public health

34696 - Human anatomy

34697 - Biology

34698 - Human physiology

34699 - Biochemistry

34702 - Psychology and communication

34703 - Biostatistics and public health

Other requirements

OUTCOMES

1206 - Degree in Dentistry

- Tener capacidad para elaborar un juicio diagnóstico inicial y establecer una estrategia diagnóstica razonada, siendo competente en el reconocimiento de las situaciones que requieran una atención odontológica urgente.
- Conocer la morfología y función del aparato estomatognático, incluyéndose contenidos apropiados de embriología, anatomía, histología y fisiología específicos.
- Realizar tratamientos básicos de la patología buco-dentaria en pacientes de todas las edades. Los procedimientos terapéuticos deberán basarse en el concepto de invasión mínima y en un enfoque global integrado del tratamiento buco-dental.
- Educar y motivar a los pacientes en materia de prevención de las enfermedades buco-dentarias, controlar los hábitos bucales patogénicos, instruirlos sobre una correcta higiene bucal, sobre medidas dietéticas y nutricionales y, en resumen, sobre todos los métodos de mantenimiento de la salud bucodental.



- Realizar procedimientos quirúrgicos sencillos: extracción de dientes temporales.
- Tener conocimientos sobre la etiología, progresión y evolución de las enfermedades periodontales, atendiendo a las características bacteriológicas e inmunológicas de cada una de ellas, con especial atención a aquellos factores locales o sistémicos que pueden alterar su curso.
- Ser competente en la evaluación de los resultados del tratamiento periodontal y en la identificación, en su caso, de necesidades de tratamiento periodontal complejo.

LEARNING OUTCOMES

The main aim of this subject is to get the student to be able to take care of patients suffering from a periodontal pathology, to carry out an examination to determine the health or disease situation, with a consequent treatment plan with the steps to restore and maintain a periodontal health both in the medium and the long term.

DESCRIPTION OF CONTENTS

1. I- INTRODUCTION TO PERIODONTICS

1. - Introduction to periodontics.

Concept. Historical evolution. Parts of the subject. Connection with other subjects. Schedule and teaching methodology.

2. II- STRUCTURE AND PHYSIOLOGY OF THE PERIODONTIUM

2. - Clinical anatomy of the periodontium.

Components of the periodontium and its anatomical relationships. Periodontal insertion and periodontal protection. Clinical and radiological features of a healthy periodontium.

3. - Periodontal histology and physiology. Dentogingival junction.

Periodontal components histology and their functional relationship. Protection of the internal periodontium environment and dentogingival insertion.

4. - Formation and development of the periodontium in the tooth eruption process. Anatomical and dimensional variations and its repercussion on periodontal health and on esthetics.

Although this subject has its own identity, due to practical clinical issues it will be developed chronologically and progressively during lessons 35 and 36, when the students will have more defined clinical criteria on Periodontics.

3. III- PATHOPHYSIOLOGY OF THE PERIODONTIUM

5. - Dental plaque (biofilm) and dental calculus.

Dental plaque: composition, structure, formation and classification. Biofilms. Dental calculus: composition, structure, formation and pathogenic potential. Other factors that boost the accumulation of plaque: iatrogenic factor and root enamel.

6. - Microbiology of the periodontal diseases.



Evidence of the bacterial etiology in the periodontal diseases. Criteria for a definition of the periodontogenic bacteria. Specific and nonspecific plaque hypothesis. Periodontal microflora during health and disease. Mechanisms of antimicrobial action important in periodontal diseases.

7. - Histopathology of the periodontal disease.

Swelling as a mechanism of defense. Cellular and humoral immunity. Protective and destructive roles of the host response. Chronological evolution of the periodontal disease. Pathological anatomy of the periodontal lesion and its clinical correlation. Periodontal pockets.

8. - Mechanisms of defense against the dental plaque.

Host-parasite interaction. Periodontal disease progression and mechanisms of tissue destruction.

9. - Modifying factors in the pathogenesis of periodontal diseases.

Diabetes, stress, smoking, hormonal alterations. Susceptibility to periodontitis (genetic factors).

4. IV- PERIODONTAL EXAMINATION

10. - Clinical examination I. Clinical examination II.

Anamnesis. Clinical parameters. Catheterization and periodontogram. Laboratory tests: microbiological, immunological and biochemical.

11. - Radiological examination I. Radiological examination II.

Radiographic parameters. Radiographic study techniques. Parallel periapical radiographic series.

5. V- PERIODONTAL DISEASES

12. - Periodontal diseases classification.

Historical approach of the different classifications of the periodontal diseases by a supposed etiopathogenic mechanism.

13. - Forms of periodontal disease I. Gingivitis.

Plaque-induced gingivitis. Other gingival alterations.

14.- Forms of periodontal disease II. Periodontitis.

Chronic periodontitis. Aggressive periodontitis. Necrotizing periodontal disease.

15.-. Systemic impact of the periodontal diseases.

Cardiovascular disease. Effects during pregnancy. Respiratory infections.

16. - Epidemiology of the periodontal disease I. Epidemiology of the periodontal disease II.

Periodontal index systems. Prevalence, severity and distribution of the periodontal disease among the population. Epidemiology contributions.

6. VI- PERIODONTAL DIAGNOSIS AND TREATMENT PLANNING

17. - Periodontal diagnosis and prognosis.

Diagnostic criteria. General and single-tooth periodontal prognosis.

18. - Treatment planning. Sequence and goals of a periodontal treatment.

Comprehensive and periodontal treatment plan. Treatment steps and goals. Information and motivation.

Etiological factor control and other related factors control. Assessment. Surgical treatment. Maintenance.



7. VII- BASIC PERIODONTAL TREATMENT.

19.-Motivation techniques applied to a periodontal patient.

Motivational interviewing: importance and development.

20. - Mechanical control of supragingival plaque.

Importance of supragingival plaque removal. Techniques to self-monitoring plaque. Limitations and adverse effects.

21. - Chemical control of supragingival plaque: antiseptics. Antibiotic therapy in periodontal diseases (I and II).

Chemical control of plaque. Objectives. Classification of chemical agents for controlling plaque. Chlorhexidine: mechanism of action, indications and side effects. Administration guidelines. Antibiotics in the treatment of periodontal disease, types and indications. Intralesional liberation systems.

22. - Non-surgical treatment of periodontal disease: periodontal Instrumentation I.

Concepts: tartar removal, scaling and root planing, gingival curettage. Instrumentation with mechanical devices: sonic and ultrasonic. Indications and limitations. Advantages and disadvantages. Other instruments used.

23- -surgical treatment of periodontal disease: periodontal Instrumentation II. Periodontal Instrumentation III.

Scaling and root planing: definition, objectives, instruments and techniques. Indications, limitations and clinical outcomes.

24. - Periodontal considerations in other dental treatments I. Orthodontics Periodontics relationship. Periodontics and restorative dentistry.

Periodontal remodeling during orthodontic movement. Indications and contraindications of orthodontic treatment in adult patients with periodontal pathology. Periodontal-orthodontic treatment sequence.

Restorative treatment and biological width. Factors in the design of dental restorations that may affect the periodontal tissue. Biological width invasion.

8. (continued point VII)

25. - Periodontal considerations in other dental treatments II. Orthodontics Periodontics relationship. Occlusion and periodontal disease.

Pulp injuries and its impact on the periodontium. Endodontic-periodontal syndrome: causes, clinical and radiographic manifestations, differential diagnosis (periodontal abscess). Treatment protocol.

Periodontal physiological behavior to occlusion forces. Definition and terminology of occlusal trauma. The occlusal trauma and periodontal disease. Pathologic tooth migration.

26. - Halitosis and periodontal disease.

Etiopathogenic factors of halitosis. Differential diagnosis and treatment.

27. - Dentin Hypersensitivity and periodontal treatment.

Epidemiology, etiopathogenesis, differential diagnosis and treatment of dentinal sensitivity.



9. VIII- PERIODONTAL SURGICAL TREATMENT.

28. - Introduction to periodontal surgery.

General principles of periodontal surgery. Objectives of periodontal surgery treatment. Indications and contraindications. Patient preparation, medication and care.

29. - Periodontal soft tissues surgery.

Classification of periodontal surgery techniques. Surgical techniques for the treatment of the pockets.

30. - Resective osseous periodontal surgery. Furcation involvement surgical treatment.

Physiological bone architecture and destruction patterns in periodontitis. Classification of bone defects. Definition and classification of bone surgery techniques. Indications and goals of resective osseous surgery (ROS). Description and steps of resective osseous surgery.

Root anatomy and terminology. Classification of furcation lesions: clinical and radiographic diagnosis. Treatment options in furca lesions.

31. - Regenerative periodontal surgery I.

Periodontal wound healing. Periodontal pocket healing. Concepts: regeneration, repairing, reinsertion, new insertion and bone regeneration.

Indications and limitations of periodontal regeneration techniques: patient factors, etiopathogenic control of periodontitis, characteristics of bone defects.

32. - Regenerative periodontal surgery II.

Therapeutic media on periodontal regeneration. Debridement, root conditioning, bone grafting and fillers, guided tissue regeneration and guided bone regeneration. New therapeutic approaches for periodontal regeneration.

33. - Mucogingival surgery I.

Recession concept. Recession etiopathogenesis. Classification of recession lesions. Therapeutic approach.

34. - Mucogingival surgery II.

Mucogingival surgery. Objectives and indications. Surgical techniques.

10. (continued point VIII)

35. - Periodontal surgery for aesthetic and restorative purposes I.

Influence of periodontal tissues in facial aesthetics. Studies on dimensions of the dentogingival unit. Dimensional variability factors: periodontal biotype and phenotype. Clinical significance and implications in the periodontal treatment.

36 Periodontal surgery for aesthetic and restorative purposes II.

The altered passive eruption, definition, production mechanisms, types and clinical implications. The gummy smile: causes, differential diagnosis and treatment planning. Periodontal surgery prior to restorative treatment.



11. IX- PERIODONTICS APPROACH TO ORAL IMPLANTOLOGY

37. - Periodontium and peri-implant tissues. Implant treatment in patients with periodontitis. Integration of hard and soft tissues. Dimensional characteristics of peri-implant tissues. Examination of peri-implant tissues.
- 38.-Management of hard and soft tissues in implantology, its impact on health and aesthetics.
39. - Periodontal disease and peri-implant disease.
- Microflora on implants in patients with a history of periodontal disease. Peri-implant mucositis and peri-implantitis.

12. X- PERIODONTAL TREATMENT MAINTENANCE.

40. - Periodontal maintenance phase. Maintenance of osseointegrated implants.
- Effect of periodontal treatment in the maintenance of the dentition. Alternatives for the prevention and control of periodontal disease. Periodontal maintenance patient with dental implants: ground and objectives. Maintenance Planning.

13. Pre-Clinical Training:

1. - Introduction to pre-clinical training. Periodontal medical history: Periodontogram.
2. - Application of periodontal indices.
3. - Knowledge of the tools used in periodontal examination and treatment.
4. - Sharpening of the basic periodontal treatment tools.
5. - Identification of the equipment used for periodontal surgery.
6. - Tools used for scaling and root planing.
7. - Radiographical examination.
8. - Scaling and root planing on phantom anterior teeth.
9. - Scaling and root planing on phantom molars and premolars.
10. - Periodontal examination and periodontogram data among students.
11. - Scaling and root planing among students.

14. Clinical Practices:

Clinical Practices:

The students will take care of patients with periodontal pathology. They will create the clinical history, do the examination, diagnosis, prognosis, treatment plan development and, finally, they will develop the basic periodontal treatment. During this process, there will be a specially focus on motivational techniques applied to the periodontal patient (motivational interviewing).

- Paper on a topic of the content of Periodontology (Documentation and presentation of a clinical case)
- Seminars of practical interest.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Odontology practices	64,00	100
Theory classes	52,00	100
Laboratory practices	50,00	100
Classroom practices	14,00	100
Attendance at events and external activities	8,00	0
Development of group work	8,00	0
Development of individual work	7,00	0
Study and independent work	25,00	0
Readings supplementary material	9,00	0
Preparation of evaluation activities	16,00	0
Preparing lectures	31,00	0
Preparation of practical classes and problem	12,00	0
Resolution of case studies	4,00	0
TOTAL	300,00	

TEACHING METHODOLOGY

Teaching and learning methodology in this subject will mainly be based on theoretical-practical in-person activities.

The theory lessons, in form of lectures, will introduce the student to the essential and more relevant contents of the subject.

The in laboratory simulated practices with models will be aimed at providing the student with the basic skills and abilities to access clinical practices with patients.

The seminars and clinical case studies will allow the students to become familiar with the critical analysis of information and a reasoned decision making, based on the acquired information.

Clinical practices in this subject are done with patients and their aim is for, along with the rest of methodologies outlined, and under the direct supervision of a teacher, the students to recognize the peculiar features of the anamnesis, examination, diagnosis, treatment plan, basic treatment, and indications for advanced surgical periodontal treatment in patients with periodontal pathology.

The necessary direct supervision of these practices, that are clinical and with patients, contributes to the students' orientation toward resolving their doubts and weaknesses in their learning and allows an ongoing tutoring beyond the set tutoring sessions.



EVALUATION

1. Continuous evaluation of the attitude and skills achieved by the student in the preclinical practice phase of the subject (Laboratory and clinical practices without a patient). Its objective is to guarantee an adequate professional treatment, without the risk of injuring the patient's oral tissues during clinical practices. Failure to pass this continuous evaluation will prevent the student from carrying out clinical practices with patients.

2. Final Assessment. In order to be able to sit the student for the final exam, the student must have previously handed in all the material (and in perfect condition) provided by the University for the preclinical and clinical practices. This will be an essential requirement, in order to guarantee the proper use of said material and its availability for fellow students of the following course. If the student does not comply with this requirement, the minutes will appear as not presented. To pass the subject, the student must: have obtained a positive assessment in the clinical practices carried out on the patient, in the documentation and scientific argumentation of the resolved clinical case and in the final theoretical exam.

Final qualification criteria:

Final Theory Exam: 70 multiple-choice questions (each question 1 point; approved from 42 points inclusive).

For the evaluation of the clinical practices of Periodontics it will be necessary to pass the "theoretical final exam". Once this exam has been passed, the final grade will be complemented with the one obtained in the practices and the one obtained in the evaluation of the presentation of a clinical case resolved based on a bibliographic review; as follows:

- The final exam accounts for 70% of the final grade.
- The evaluation of the practices supposes 10%. It will be assessed based on skills acquired, procedures performed, and compliance with the standards of clinical practices (unjustified absences subtract 5 points).
- The evaluation of the presentation of a clinical case resolved on the basis of scientific argumentation through a bibliographic review represents 20% of the final grade. Attendance at all scheduled activities and assessment of the student's involvement in these tasks will also be included in this percentage.

It is a requirement to access the advance call for this subject, that the student has successfully completed all of his practices.

Students are reminded of the great importance of carrying out evaluation surveys of all the teaching teachers of this subject



REFERENCES

Basic

- Wolf HF, Edith M, Klaus H., Rateitschak. Atlas de periodoncia. 3ª edición 2005. Ed. Masson.
- Lindhe. Periodontología clínica e Implantología Odontológica. 2009. 5ª Edición. Editorial Médica Panamericana.
- Carranza's. Clinical Periodontology. Tenth edition 2006. Saunders, Esvier Inc
- Manual SEPA de Periodoncia y Terapéutica en Implantes. 2005 Editorial Médica Panamericana.

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- Carranza F, ShKlar G. History of periodontology. ED. Quintessence Publishing Co, Inc. 2003.
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