

26815 - Ocular Pathology and Pharmacology

Syllabus Information

Academic year: 2024/25

Subject: 26815 - Ocular Pathology and Pharmacology

Faculty / School: 100 - Facultad de Ciencias

Degree: 297 - Degree in Optics and Optometry

ECTS: 10.0

Year: 3

Semester: Annual

Subject type: Compulsory

Module:

1. General information

The subject and its expected results respond to the following approaches and objectives: The general objectives of the subject are:

1. Contribute to the early diagnosis of the most frequent ophthalmologic diseases, also developing possible preventive measures. 2. Collaborate in the health education of the population regarding the early diagnosis of pathological processes that may compromise the territories of the specialty. 3. To develop a capacity of analysis and synthesis of the data obtained in the clinical history and in the examination of the patients, in order to initiate a well-founded working hypothesis that will lead to a diagnostic judgment through an appropriate methodology. 4. Establish the appropriate criteria for the request for specialized medical care in the diagnosis and treatment of the pathological processes that comprise the Ophthalmology. 5. Know the basis and side effects of the therapeutic indications used in Ophthalmology. 6.

Finally, with these objectives, the aim is to achieve a comprehensive training of the student, which should constitute the basis for the training of the current and future general optometrist, putting them in a position to be able to evaluate the new diagnostic and screening procedures that may arise in the future in the evolution of the professional activity.

2. Learning results

The student, in order to pass this subject, must demonstrate the following results...

1: Knowledge of the principles of ophthalmologic pathology and the real transcendence of ocular diseases: Acquire enough fundamentals to be able to correctly perform the anamnesis and properly assess the basic ophthalmological semiology of the most prevalent ocular diseases. Be able to solve clinical problems related to Ophthalmology, elementary clinical practice, visual acuity with optotypes, basic emergency care and criteria for care and referral. Know when and how to refer a patient to an ophthalmologist.

2: Exploratory methodology oriented to the practice of optometry in the ophthalmology practice.

3: Know the concept of drug, action, classification and active ingredient.

4: Basic knowledge of pharmacological treatments applied in the field of Ophthalmology and recognition of their side effects.

3. Syllabus

The program offered to the student to help them achieve the expected results includes the following activities:

1: Theoretical Program of Ocular Pathology and Pharmacology. Unit I. Ocular Pharmacology. - Topic 1. Concept of Pharmacology. General drug cycle. - Topic 2. Pharmacokinetics. Drug absorption and routes of administration. - Topic 3. Pharmacokinetics. Drug metabolism. - Topic 4. Pharmacodynamics. Action, effect and mechanism of action. - Topic 5. Pharmacodynamics. Pharmacological interactions. Synergies and antagonisms. - Topic 6. Pharmaceuticals. Factors influencing bioavailability. - Topic 7. Pharmaceuticals. Preparations for ophthalmologic use. - Topic 8: Pharmaceuticals. Lacrimal substitutes. Unit II. Basic Unit. - Topic 9. Ophthalmologic Clinical History. Semiology of Ophthalmology. - Topic 10. Basic Clinical Ophthalmologic Examination. - Topic 11. Examination techniques in Ophthalmology. Unit III. Preventive ophthalmology. - Topic 12. Primary open angle glaucoma. - Topic 13. Vascular retinopathies. - Topic 14. Intraocular tumours. Unit IV. Visual Acuity Decrease. - Topic 15. Crystalline pathology. - Topic 16. Intermediate uveitis. - Topic 17. Posterior uveitis. Endophthalmitis. - Topic 18. Papillary edema. - Topic 19. Anterior and posterior optic neuropathies. - Topic 20. Pathology of the optic chiasm and retrochiasmatic pathways. - Topic 21. Macular degeneration Associated with age. - Topic 22. Central retinal degenerations. - Topic 23. Retinal vascular occlusions. - Topic 24. Vitreo-Retinal Haemorrhage. Retinal detachment (peripheral retinal degenerations). Unit V. Differential diagnosis of red eye. - Topic 25. Eyelid pathology. Inflammatory. Tumour. Alterations of shape and position. - Topic 26. Dry Eye Syndrome. Concept. Etiopathogenesis. Classification. - Topic 27. Dry Eye Syndrome. Clinical manifestations. Diagnostic orientation. - Topic 28. Pathology of the conjunctiva I: Conjunctivitis. - Topic 29.

Pathology of the conjunctiva II: Degenerations. Sclera tumours. - Topic 30. Corneal Pathology I: Keratitis. - Item 31. Corneal Pathology II: Dystrophy and degenerations. - Topic 32. Acute glaucoma attack. - Topic 33. Anterior uveitis. Unit VI. Ocular traumatology. - Topic 34. Anterior and posterior segment trauma syndrome. Unit VII. Advanced Neuroophthalmology. - Topic 35. Pupillary Tract. - Topic 36. Nystagmus. Facial spasm. Headaches. - Topic 37. Paralysis of cranial nerves. Unit VIII. Pathology of the lacrimal pathway and ocular appendages. - Topic 38. Pathology of the lacrimal drainage system. - Topic 39. Orbital pathology. Thyroid ophthalmopathy.

2: Ocular Pathology and Pharmacology Seminar Program. - Seminar 1: Fluorescein angiography. Basics and fundamentals. - Seminar 2: Special explorations of the Anterior Segment: OCT - Seminar 3: Visual field assessment - Seminar 4: Diagnostic protocols in glaucomatous disease. - Seminar 5: Loss of Visual Acuity. - Seminar 6: Meibomian Gland Dysfunction Syndrome. - Seminar 7: Visual function exploration in neuro-ophthalmologic diseases. - Seminar 8: Electrophysiology of the visual system. - Seminar 9: Imaging in Ophthalmology - Seminar 9: Imaging in Ophthalmology - Seminar 10: Oftalmovideo.

3: Ocular Pathology and Pharmacology Workshop Program. - Workshop 1: Glaucoma Screening Program. Optometric approach. - Workshop 2: Protocol for the screening of vascular retinopathies. Telemedicine - Workshop 3: Optometric solutions and applications in Ophthalmologic pathologies. - Workshop 4. Diagnostic algorithms in ocular surface disease. Differential diagnosis of red eye.

4: Hospital Internships: They will be held at the University Hospital "Miguel Servet" and the University Hospital "Lozano Blesa".

4. Academic activities

The learning process designed for this subject is based on the following:

1. Classroom Teaching (10 ECTS, 100 hours) § Training Activity 1 (Large Groups): Acquisition of basic knowledge of ocular pathology and recognition of the importance of ocular diseases with special attention to pathologies associated with advanced age. Methodology: Introductory and participatory lectures (Theoretical Program, 38 lessons, 40 hours, 4 ECTS) § Training Activity 2 (Small Groups/Subgroups): Practical clinical experience related to the evaluation and management of ocular pathologies. Methodology: - Internship at a hospital, External curricular internships. Learning with a real patient (40 hours, 4 ECTS) - Resolution of Problems and Cases. Seminars. (10 hours, 1 ECTS) - Laboratory Practices. Workshops. Seminars. (10 hours, 1 ECTS)

2. Non-face-to-face teaching (10 ECTS, 150 hours) It is the student's autonomous work dedicated to the study of the theoretical program and to the preparation of seminars and workshops before and after their delivery. In the subject of "Principles of Ocular Pathology and Pharmacology" a great teaching weight is given to the Digital Teaching Ring (ADD) that has been organized to complement the classroom teaching. It consists of: - General information of the subject with expression of the Program, Objectives and Evaluation Criteria. - Documents that allow to prepare the Seminars, Workshops and Practices. These documents will allow their evaluation during these teaching activities. - Elaboration and exposition of a tutored individual work - Library of Podcasts: with clinical and surgical procedures - Practical clinical cases that complement the theoretical teaching. - The questionnaire of possible exam questions to facilitate the student's preparation.

5. Assessment system

The student must demonstrate that they has achieved the intended learning results through the following assessment activities:

A. Evaluation of face-to-face students

Attendance to 75% of the clinical practices and workshops is mandatory.

Continuous evaluation of clinical practices, seminars and workshops by means of reports and objective evaluation tables (20%).

Theoretical test (multiple-choice test) at the end of the term (80%): - Theoretical questions - Solution of case studies or identification of images

In order to pass the subject, the grades resulting from the evaluations of the clinical practices, seminars and workshops, and the theoretical exam will be computed, being necessary to achieve a minimum of half of the points in each of the evaluations, independently.

B. Evaluation of non-face-to-face students

There will be a global evaluation test that includes the evaluation of: Clinical practices, seminars and workshops whose objective evaluation represents 20% of the final grade. Theoretical test (multiple-choice test) whose valuation represents 80% of the final grade.

6. Sustainable Development Goals

3 - Good Health & Well-Being