



MEDICAL UNIVERSITY
“PROF. DR. PARASKEV STOYANOV” - VARNA
FACULTY OF DENTAL MEDICINE

Approved with a Protocol of № 46/16.02.2022

Approved:
DEAN of Faculty of Dental Medicine:
/ Prof. Stefan Peev, MD, PhD, DSc/



EDUCATIONAL PROGRAMME
OF
“OPHTALMOLOGY”

Specialty “DENTAL MEDICINE”

Educational-qualification degree “MASTER”

Professional qualification “PHYSICIAN IN DENTAL MEDICINE”

	Semester	Horarium weekly	Total horarium
Lectures	IX		15
Exercises	IX		15
Total			30
Monitoring and evaluation forms	Current control		Exam – IX semester
Credits (ECTS)			2
Extracurricular employment			30

Varna, 2022

ANNOTATION

Curriculum Compulsory "Ophthalmology" is designed to train students acquiring education - degree "Master" professional qualification physician in dental medicine.

The main objective of the training is to provide the necessary volume of theoretical and practical knowledge enabling students after completing the course to have knowledge, skills and approaches to clarify the diagnostic and therapeutic problems in the field of dentistry related to ophthalmology.

PLAN OF TOPICS OF LECTURES

	Topic	Hours
1.	<p>Anatomy of the eye - clinical aspects. Basic visual functions central, peripheral and color vision. The optical system of the eye. Clinical refraction.</p> <p>Sillabus : Students should be acquainted with the anatomy of the eye, orbit and eyelids, innervation and blood supply. Visual function in normal and possible pathological changes in regional and systemic diseases. Importance of clinical refraction not only for the patient but also for the dentist to optimize safety. Anatomy of the eye - clinical aspects. Basic visual functions - central, peripheral and color vision. Clinical refraction.</p>	2
2.	<p>Orbit - inflammatory diseases and tumors. lacrimal system.</p> <p>Sillabus: Orbital inflammatory diseases may be the result of dental infection. Diagnosis and differential diagnosis discussed in detail will help future work of dentists. Diseases of the lacrimal apparatus are interdisciplinary problem ophthalmologists, ENT specialists and maxillofacial surgeons. Knowledge of anatomy and pathology of the lacrimal system is obligatory for a dentist.</p>	2
3.	<p>Diseases and tumors of the eyelids. Diseases of the conjunctiva.</p> <p>Sillabus : Eyelids can change its position in various ophthalmic and neurological changes. The aim of the lecture is to focus on cases of eyelid position change as a result of or damage to adjacent structures. Conjunctivitis is the most common eye disease. Diagnosis and differential diagnosis is mandatory for every medical professional</p>	2
4.	<p>Corneal diseases. Inflammations and tumors of the uvea.</p> <p>Sillabus : The cornea is the transparent front surface of the eye, two thirds of the refractive power of the eye is due to the cornea. Its pathology can lead to a variety of visual disturbances. The inflammation of the uvea, is often idiopathic, which requires shutdown of the plurality of local and systemic diseases including dental infections. Remediation of the oral cavity is of particular importance in reducing relapses.</p>	2

5.	<p>Cataracts. Glaucoma.</p> <p>Sillabus : Cataract is the most common ocular problem and frequently operated condition in the surgical practice. Surgical treatment is successful in over 95% of cases. Unlike cataracts, glaucoma is still a major cause of irreversible visual impairment. Prevention of glaucoma is the task of every healthcare professional.</p>	2
6.	<p>Diseases of the retina and optic nerve. Traumatic injuries to the eye and adnexa.</p> <p>Sillabus : Retinal diseases have serious consequences and often lead to disability. Optic nerve can be damaged by inflammation adjacent to serious visual disturbances. Injuries to municipal and industrial character continues to be a major problem of emergency ophthalmology. The combined injuries are interdisciplinary problem and require more active intervention of specialists.</p>	2
7.	<p>Concomitant and paralytic strabismus. Eye problems associated with dental pathology.</p> <p>Sillabus : Violations of eye movements can be caused by congenital and acquired causes. The differential diagnosis of paralytic strabismus especially is key in various pathological changes in the head. Summary of ocular pathology in dental diseases will lead to systematize the knowledge of students of dentistry.</p>	3
	Total	15

PLAN OF TOPICS OF PRACTICAL CLASSES

	Topic	Hours
1	Introduction, history of an ocular sick person. Study of visual acuity, color vision. Visual tables sets corrective glasses. Clinical refraction. Presbyopia, opportunities for correction.	2
2	The Orbit - Topography - anatomical features, methods of study-shaped diagnostic exophthalmometry. Orbital syndromes. Orbital inflammation with dental etiology. Thyroid ophthalmopathy. Research and lacrimal apparatus diseases.	2
3	Biomicroscopy. Research and diseases of the eyelids and conjunctiva. Inflammatory diseases of the eyelids: blepharitis, hordeolum, chalazion; medication. Changes in the position of the eyelids ectropion, entropion, ptosis, lagophthalmus. Tumors of the eyelids. Foreign body in eyelid turning the upper eyelid removal. Features in the clinic and differential diagnosis of conjunctivitis	2
4	Biomicroscopy, enlightenment. Research and diseases of cornea and sclera. Characteristics and properties of the cornea. Corneal change with the naked eye. Inflammatory and degenerative diseases. Diseases and uvea. Uvea disease in systemic and local inflammation.	2
5	Diagnosis of cataracts, advanced aspects of cataract surgery. Glaukoma - measurement of intraocular pressure, perimetry, gonioscopy . Medical and surgical treatment of glaucoma.	2
6	Techniques in ophthalmoscopy. Diseases of the retina - macular degeneration, retinal detachment, retinopathy of prematurity. Disorders of optic nerve. Optic neuritis. Ischemic opticopathy. Ocular trauma - approach and treatment.	2
7	Eye movements, binocular vision. Differential diagnosis of concomitant and paralytic strabismus. Pupil reaction. Congestive papilla. Diabetes ocular manifestations, diagnosis and treatment. Hypertension - ocular manifestations. Dental problems leading to ocular pathology.	3
	Total	15

MONITORING AND EVALUATION FORMS:

- Teaching modalities include lectures, tutorials and practical.
- Evaluation of knowledge is by test and comprehensive examination with practical and theoretical part. Students must prepare a communication in their choice as well.
- The final mark is based on following table:

Modality	% of the mark
Test	25
Communication	15
Theoretical examination	60
Total	100

Test examples:

Questions with only one correct answer:

1. The inner lining of the eye is composed of:
 - a) the choroid
 - b) a lens
 - c) the retina
 - d) the ciliary body
2. Inferior rectus muscle is innervated by:
 - a) n abducens
 - b) n trochlearis
 - c) n oculomotorius
 - d) n ophthalmicus
3. The normal central corneal thickness is:
 - a) 630 - 650 μm
 - b) 430 - 450 μm
 - c) 530 - 550 μm
 - d) 330 - 550 μm
4. Mucin layer of the tear film has the following function:
 - a) maintain corneal sensation
 - b) maintain the stability of the tear film
 - c) providing the attachment of the aqueous phase to the corneal epithelium
 - d) providing the optical properties of the cornea
5. The morphological substrate of accommodation are:
 - a) the ciliary muscle, the lens
 - b) the ciliary muscle, the cornea
 - c) the cornea, the lens
 - d) the lens, the vitreous
6. Astigmatism is a refraction anomaly in which parallel rays are focused:
 - a) in front of the retina
 - b) there are two main focus
 - c) behind the retina
 - d) on the retina
7. The treatment of the cataract is:

- a) surgical
 - b) with laser
 - c) with drops
 - d) complex
8. In first aid in chemical burns of the eyes is done:
- a) neutralisation
 - b) topical antibiotics
 - c) wash
 - d) all indicated
9. Open angle glaucoma is a disease that occurs:
- a) with corneal edema and increased intraocular pressure
 - b) relapsing
 - c) with changes in the visual field and optic atrophy
 - d) with all of the above.
10. For amblyopia is not true that:
- a) is a functional reduction in visual acuity
 - b) occurs within 7 years
 - c) can be corrected with glasses and other optical aids
 - d) all of the above

QUESTIONNAIRES:

1. Anatomy of the orbit.
2. Anatomy of the eyelids.
3. Anatomy of the lacrimal system.
4. Anatomy of the cornea and sclera.
5. Anatomy of the extraocular muscles.
6. Anatomy of the uvea.
7. Anatomy of the retina.
8. Visual pathways and visual centers. Pupillary arc.
9. Light perception. Color vision. Disorders in color perception- congenital and acquired.
10. Vision field. Methods of examination. Defects in the vision field: scotoma, constricted boundaries hemianopsia.
11. Central vision. Visual acuity. Types of examination. Visual tables.
12. Physical and clinical refraction. Emmetropia and ametropia - species.
13. Myopia.
14. Hypermetropia.
15. Presbyopia.
16. Astigmatismus.
17. Binocular vision. Orthophoria, Heterophoria.
18. Drug treatment of eye diseases. Formulations. Drug classes.
19. Diseases of the orbit: classification and clinic.
20. Diseases of the eyelid: classification and clinic.
21. Anomalies in the position and mobility of the eyelids.
22. Tumours of the orbit and eyelids.
23. Diseases of the lacrimal apparatus. "Dry syndrome."
24. Conjunctivitis - classification. Differential diagnosis of conjunctival injection.
25. Purulent conjunctivitis. Conjunctivitis in the newborn.
26. Viral conjunctivitis. Chlamydia conjunctivitis.
27. Allergic conjunctivitis. Autoimmune conjunctivitis.
28. Microbial keratitis.
29. Viral keratitis.
30. Parenchymatous keratitis.
31. Degenerative diseases of the cornea. Corneal dystrophies.
32. Episcleritis and scleritis
33. Uveitis — classification , clinic and principles of treatment.
34. Anterior uveitis - classification clinic and principles of treatment.
35. Posterior uveitis - classification clinic and principles of treatment.
36. Normal and abnormal pupil reaction. Anisokoria.
37. Cataracts in children.

REFERENCES:

1. The Merck Manual 18-th edition

For on line use: <http://www.merck.com/mmpe/sec09.html>

To buy: <http://www.merckbooks.com/mmanual/index.html>

2. Vaughan and Asbury's General Ophthalmology

Paul Riordan — Eva, Taylor Asbury, John Whitcher, McGraw-Hill Professional Publishing, 2003, ISBN: 0-07-137831-6

3. Parsons' Disease of the eye by Stephen J. Miller - Churchill Livingstone, 18th edition (1990), ISBN: 0443042306

4. Basic Ophthalmology for Medical Students and Primary Care Residents American Academy of Ophthalmology, Seventh Edition 1999 Edited by Cynthia A. Braford, MD.

38. Cataracts - classification, clinic and treatment.
39. Glaucoma - classification, principles of treatment.
40. Open-angle glaucoma. Primary open-angle glaucoma.
41. Closed-angle glaucoma. Acute glaucoma attack.
42. Melanoma of the uvea.
43. Retinal detachment. Symptoms of retinal diseases.
44. Thrombosis and embolism of the retinal vessels.
45. Retinal pathology in systemic diseases - diabetes and hypertension.
46. Disorders of the vitreous.
47. Papilledema. Atrophy of the papilla.
48. Optic neuritis.
49. Concomitant strabismus.
50. Prevention of childhood vision. Amblyopia.
51. Paralytic strabismus.
52. Orbital traumas.
53. Contusion injuries of the eyeball.
54. Penetrating injuries to the eyeball.
55. Surface and intrabulbar foreign body. First aid.
56. Thermal and chemical burns of the eye. First aid.
57. Eye injuries from UV and IR light.
58. Emergency injuries and burns to the eyes.

Department's council protocol Ng 47/10.01.2022

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