

**PRIVATE HIGHER EDUCATIONAL INSTITUTION
"INTERNATIONAL ACADEMY OF ECOLOGY AND MEDICINE"
Department of Surgery**

WORKING PROGRAM OF EDUCATIONAL DISCIPLINE

" Ophthalmology"

LEVEL OF HIGHER EDUCATION Second (master's) level
DEGREE OF HIGHER EDUCATION Master's degree
BRANCH OF KNOWLEDGE 22 Healthcare
SPECIALTY 222 Medicine

Reviewed and approved
at the meeting of the Academic Council
Protocol No. 1, dated August 31, 2018

Kiev 2018

Working program of education discipline Ophthalmology for the preparation of students of higher education of the second (master's) level of higher education in specialty 222 Medicine.

Description of educational discipline

Ophthalmology is a clinical discipline that studies anatomy, physiology and pathology of the organ of vision and auxiliary apparatus of the eye. Its importance and necessity teaching on final stage preparation 1 and punishment conditioned those what Diseases of the organ of vision are one of the first places among human diseases and make up about 20% of all appeals to medical institutions. Eye diseases lead to early disability or to a limitation in choosing a profession, therefore it is safe to say that an ophthalmologist can be among the first doctors in security health.

By types educational activity students according to with educational plan is:

- lecture materials;
- practical occupation;
- independent work students (IWS).

Practical occupation provides for: study disciplines "Ophthalmology" mastery practical skills

At practical classes in the discipline "Ophthalmology" for students recommended:

- perform written tasks (test control to determine initial equal knowledge, situational tasks for final control equal of knowledge students);
- viewing educational thematic videos (use of schemes, tables, slides, dummies, computer presentations);
- practical skills (indirect and direct ophthalmoscope, sciascopy rulers, tonometer, anomalous, 4th dotted color test, biomicroscope, multifocal lens).

Program built with taking into account integration educational process in higher education and provides students with basic theoretical and clinical knowledge discipline The discipline program consists of one module, which includes blocks of 3 content modules. The amount of students' academic load described in ECTS credits - credit credits that are credited to students at successful assimilated them corresponding module (remedial credit).

Structure educational disciplines	Number hours, with them					Form of control
	In total	Auditory		IWS	Year	
		Lectures	Practical classes			
Name disciplines: "Ophthalmology", Content modules - 3	3 credits/ 90 hours	10	52	28	4th year, VII semester	Diff. credit

subject study educational disciplines is:

- clinical anatomy, physiology, methods research body vision etiology, pathogenesis, diagnosis and treatment of the most common diseases of the organ of vision.

Interdisciplinary connections:

The working curriculum in the discipline "Ophthalmology" is based on its content a document that defines the amount of knowledge that students of the IV course must master in accordance to requirements educational and qualification characteristics of the future specialist, the algorithm for studying the educational material of the discipline taking into account interdisciplinary connections Ophthalmology as educational discipline:

and) is based on studies students medical biology, biological and bioorganic chemistry, histology, physiology and pathological physiology, anatomy a person and pathological anatomy and is integrated with by these disciplines;

b) is based on studies students propaedeutic discipline therapeutic profile, pharmacology, radiology

and is integrated with by these disciplines;

in) is integrated with by others clinical disciplines (otolaryngology, neurosurgery, oncology, psychiatry, medical genetics etc);

d) passes differentiation - formation individual directions of ophthalmology sciences that have independent international organizations: cataractologists, glaucomatologists, vitreoretinal specialists surgeons

The discipline program contains one module to the warehouse which include three credits, 90 hours (10 hours of lectures / 52 hours of practical classes / 28 hours of self-study works). Amount educational load students described in credits ECTC –credits credits, which are counted students at successful assimilated them corresponding module (credit). The course of ophthalmology is divided into 3 contentmodules:

Contentful module 1. Anatomically functional features body vision

Disease additional device eye

Functions body vision

Refraction and accommodation Strabismus.

Pathology for ever, tearful bodies orbits, conjunctiva

Content module 2. Inflammatory and dystrophic diseases of the organ of vision. Disease corneas sclera, choroid.

Disease lens Dystrophic disease vitreous bodies

Glaucoma.

Disease retinas, visual nerve Changes body vision at generaldiseases

Contentful module 3 . Damage body vision Urgent state in of ophthalmology.

Damage body vision Urgent help

Urgent conditions in ophthalmology (acute occlusion of the central vein retina and its branches, central retinal artery embolism, retinal detachment, phlegmon of the orbit).

Topics lecture course reveal problematic question relevant sections of ophthalmology.

Practical classes according to the methodology of their organization include: research students visual functions in norms and at pathologiesresearch structures body vision in norms and at pathology of solving situational problems (estimation of indicators of functions of the organ of vision, dataobjective methods research – biomicroscopy, ophthalmoscopy, lateral focal lighting; in light of what passes).

1. PURPOSE STUDY EDUCATIONAL DISCIPLINES

1.1. The purpose of studying ophthalmology - the final goals are established on the basis OPP, preparation doctor by by profession in accordance to block her contentmodule(natural - scientific training) and is the basis for building the content of the curriculum disciplines Description goals formulated by skill in in the form targeted tasks(action). Based on the end goals for each module or content module formulated specific goals in the form of certain skills (actions), target tasks that provide achievement final goals study disciplines Final objectives are located on beginning programs and precede her content, specific objectives precedecontent corresponding module

1.2. Final objectives disciplines:

- Use ethical and deontological principles protection vision people different ageand sex, analyze the features of the organ of vision, interpret the mechanisms of development pathological body processes vision
- To determine the etiological and pathogenetic factors of the development of the main diseases organ of vision
- Put previous diagnosis most common eye diseases and damage
- Determine tactics driving patients on the main ones ocular diseases
- Diagnose urgent state in of ophthalmology and give urgent medicalhelp

- Plan preventive activities of prevention occurrence epidemic outbreaks eye diseases, injuries body vision development blindness

1.3 Competences and the results teaching

General competences (CG)	
GC-1	Ability to abstract thinking, analysis and synthesis.
GC-2	Ability to learn and master modern knowledge.
GC-3	Ability to apply knowledge in practical situations
GC-4	Knowledge and understanding of the subject area and understanding of professional activity
GC-5	Ability to adapt and act in a new situation
GC-6	Ability to make informed decisions.
GC-7	Ability to work in a team.
GC-8	Ability to interpersonal interaction.
GC-11	Ability to search, process and analyze information from various sources.
GC-12	Determination and persistence in relation to assigned tasks and assumed responsibilities.
Professional competences (PC)	
PC-1	Ability to collect medical information about the patient and analyze clinical data.
PC-2	Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
PC-3	Ability to establish a preliminary and clinical diagnosis of the disease.
FK-4	The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.
PC-5	The ability to determine the nature of nutrition in the treatment and prevention of diseases.
PC-6	Ability to determine the principles and nature of treatment and prevention of diseases.
PC-7	Ability to diagnose emergency conditions.
PC-8	Ability to determine tactics and provide emergency medical care.
PC-10	Ability to perform medical manipulations.
PC-11	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
PC-16	Ability to maintain medical documentation, including electronic forms.
PC-21	It is clear and unambiguous to convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to people who are studying.
PC-24	Adherence to ethical principles when working with patients and laboratory animals.
PC-25	Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results.
Program learning outcomes (PLO)	
PLO-1	Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
PLO-3	Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
PLO-4	Identify and identify leading clinical symptoms and syndromes (according to list 1);

	according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2).
PLO-5	Collect complaints, history of life and diseases, evaluate psychomotor and physical development of the patient, state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to list 4), taking into account the age of the patient.
PLO-6	Establish the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, differential diagnosis, observing the relevant ethical and legal norms, under the supervision of the head physician in the conditions of the health care institution (according to list 2).
PLO-7	Assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).
PLO-8	Determine the main clinical syndrome or what determines the severity of the condition of the victim/injured (according to list 3) by making a reasoned decision and assessing the person's condition under any circumstances (in the conditions of a health care institution, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.
PLO-9	Determine the nature and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the patient's age, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, on the basis of a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the head physician in the conditions of a medical institution.
PLO-10	Determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
PLO-14	Determine tactics and provide emergency medical care in emergency situations (according to list 3) in limited time in accordance with existing clinical protocols and treatment standards.
PLO-17	Perform medical manipulations (according to list 5) in the conditions of a medical institution, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
PLO-18	To determine the state of functioning and limitations of a person's vital activities and the duration of incapacity for work with the preparation of relevant documents, in the conditions of a health care institution, based on data about the disease and its course, peculiarities of the person's professional activity, etc. Maintain medical documentation regarding the patient and the contingent of the population on the basis of regulatory documents.
PLO-21	Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.
PLO-22	Apply modern digital technologies, specialized software, and statistical methods of data analysis to solve complex healthcare problems.
PLO-24	To organize the required level of individual safety (own and the persons he cares for) in case of typical dangerous situations in the individual field of activity.
PLO-25	It is clear and unambiguous to convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists
PLO-27	Communicate freely in the national and English languages, both orally and in writing to

According to with requirements educational and professional programs students should:

know:

- knows the environmental and epidemiological determinants and symptoms and course of the most common ophthalmology diseases;
- principles of management in these acute neurological conditions
- basic principles of pharmacotherapy in ophthalmology disorders
- issues related to diseases of the visual system, in particular:
 - 1) the causes, symptoms, principles of diagnosis and therapeutic management of the most common ophthalmic diseases,
 - 2) ophthalmic complications of systemic diseases and their ophthalmic symptomatology, and correct methods of dealing with these cases,
 - 3) surgical management of specific eye diseases,
 - 4) the main groups of drugs used in ophthalmology, their adverse reactions and interactions,
 - 5) the groups of generally used medicines with complications and ophthalmic contraindications and their mechanism

be able:

- conduct a medical history on an adult patient
- identify imminent life-threatening situations
- identify medical problems and prioritize medical management
- perform ophthalmic screening tests
- do a thorough and focused physical examination on an adult patient
- evaluate the patient's overall condition, level of consciousness, and awareness
- recognize ophthalmologic conditions requiring immediate specialist help and provide preliminary, qualified help in cases of physical and chemical injuries of the eye
- develop diagnostic, therapeutic, and preventive treatments

is ready to:

- perceive and recognize own limitations and self-assessing educational deficits and needs;
- use objective sources of information;
- to be guided by the well-being of a patient;
- respect medical confidentiality and patients' rights;
- take actions towards the patient on the basis of ethical norms and principles, with an awareness of the social determinants and limitations of the disease;
- implement the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, also in a multicultural and multinational environment;
- formulate conclusions from own measurements or observation;
- to create and maintain close and respectful relationship with patients, as well as to demonstrate tolerance for variations in world views and cultures

Informative amount educational disciplines

CONTENT MODULE 1. Anatomically functional features body vision

Disease additional device eye

Specific objectives:

Analyze the main ones stages development domestic of ophthalmology. Explain anatomical features structures body vision

Explain features functions body sight Be able determine sharpness vision field of vision, dark

adaptation, color vision. Be able to determine phasing examination of patients with pathology of the organ of vision, maintenance of medical documentation. Determine refraction and accommodation eye

Provide sanitary and hygienic recommendations for refraction anomalies. Evaluate changes state with parties for ever and tearful bodies in norms and at pathologies.

To analyze the features of the clinical course of diseases orbit Give urgent help at sharp inflammatory processes orbit and appendages

Topic 1. ANATOMY AND PHYSIOLOGY OF THE EYE . FUNCTIONS ORGAN SIGHT AND METHODS RESEARCH

Zorova sensory system (visual parser, him the main ones and auxiliary structures). The main ones structures (light-receiving and analyzing apparatus, photoreceptors and retinal neurons, optic nerves, external geniculate bodies, visual zones bark). Auxiliary structures (oculomotor apparatus and light-conducting apparatus).

Eye apple, its outer capsule – sclera, cornea. Features structures of horns , its innervation, nutrition, functions (refractory and protective). Vascular shell and three her departments: iridescent, ciliated body, choroidea. Iris, its structure, functions, blood supply, innervation. Ciliary (ciliary) body, ciliary appendages, structure and functions (formation intraocular liquids). Accommodation muscle, him features and innervation. choroidea, her structure and interaction with retina Two systems blood supply vascular shell, their role in arising and common inflammatory processes., its optic nerve elements (cones and rods). yellow spot features of its structure. Visual act. Theory of vision. The main elements of the visual act: light perception, peripheral vision, uniform vision, binocular vision.

Visual nerve as continuation internal layer retinas, partial crossroad (chiasma) visual nerves visual highway, subcortical visual centers, visual centers bark main brain

Contents of the eyeball and the eye chamber. Lens, functions (light-refracting and accommodation), features of its structure, nutrition. Tin ligament (ciliary belt). Vitreous body. The front camera, its contents. Intraocular fluid, her composition and role in intraocular exchange Angle front camera (iris- corneal), fountain spaces. Schlemm's canal (venous sinus of the sclera). Backcell. Paths outflow intraocular liquid Influence central nervous system through the vasomotor and trophic apparatus for intraocular exchange. Eye socket, orbital walls. Openings of the eye socket: optic foramen (optic nerve, eye artery), upper orbital cleft (oculomotor nerve, deferent nerve, block-shaped nerve, the first branch of the trigeminal nerve), inferior orbital fissure. The relation of the orbit to the additional sinuses of the nose and the cavity of the skull. Orbit content: orbital fiber, nerves, ciliary node, oculomotor muscles, their place beginning and attachment, innervation, functions. Tenonova capsule, tenon space, theirs value. tarsoorbital fascia, her value.

Research central sight Acuteness vision unit her measurement, angle sight The value of the minimum viewing angle. The principle of building tables for measurement visual acuity Determination of visual acuity using tables. The role of optical systems eye Research colored vision Color and him the main ones signs conditions, necessary for color recognition. Trichromasia of the normal human eye. Dichromasia. Explanation mistakes, admitted dichromate Diagnostics color blindness Polychromatic tables.

Research peripheral vision – fields sight Normal borders fields vision physiological scotoma Methods definition fields sight: control, perimetry, campimetry Concentric narrowing fields vision Sector-like defects, half falling out fields vision both eyes (hemianopsia), limited defects in the field of vision (scotoma). Types of scotomas (central, peripheral, relative, absolute, negative, positive).

A study of twilight vision. Recognition threshold and irritation threshold, their instability. Adaptation. Theory duality vision Adaptive curves Hemeralopia. Methods of detection of hemeralopia. The Purkinje phenomenon and the method of S.V. Kravkova Hemeralopia is symptomatic and essential, their connection with the general condition body, professional and household conditions Fluorescent angiography. Conducting method. Assessment of choroidal, arterial and venous phases

Topic 2. REFRACTION AND ACCOMMODATION. STRABISMUS

Doctrine about refraction. The optical system of the eye, its constituent parts. Unit measurement refraction – diopter. Concept about physical refraction eye and age dynamics her development Objective

and subjective methods definition clinical refraction Dependence clinical refraction from broken strength optical environment and length axes eye Characteristic clinical refraction and her varieties: emmetropia, myopia, hypermetropia. Astigmatism. Research methods. Concept about commensurate and disproportionate clinical refraction (emmetropia, ametropia, anisometropia). Age characteristics and specific gravity of different species refraction

emmetropia, her clinical characteristic, spread, methods definition.

Hypermetropia (farsightedness). Age dynamics, distribution. Features optical correction of hypermetropia.

Myopia (myopia). Characteristic, age dynamics and spread. Congenital and progressive myopia. Changes in shells eye under time progressive myopia Pathogenesis, classification, role unfavorable factors Principles of medical and surgical treatment. Prevention. Optimal ocular correction, contact correction, refractive surgery by help excimer laser

Astigmatism. Characteristic, spread, age dynamics. Kinds astigmatism, methods of its determination. Features of glasses used for corrections astigmatism Contact lenses

Accommodation. Convergence and its role in accommodation. Length and volume accommodation Age-related changes in accommodation. Spasm and paralysis of accommodation, their reasons Diagnostics spasms accommodation and their prevention. Zorova fatigue (asthenopia) and methods her treatment. Presbyopia (aged, senile vision) and her correction

depending from outgoing clinical refraction and age Hygiene visual work in children's and old age

Common strabismus, its types, diagnosis. Principles of treatment of co-occurring strabismus. Paralytic strabismus, its signs, differential diagnosis, treatment methods. Hidden strabismus, clinic, diagnosis.

Topic 3. DISEASES OF THE EYELIDS, LACRIMAL ORBITS AND ORBITS.

Blepharitis, barley, chalazion, abscess, phlegmon eyelids Damage nervously-muscular device for ever. ptosis, lagophthalmos Born anomalies (coloboma for ever, ankyloblepharon, turn, inside out for ever, epicanthus, ptosis). Disease for ever, caused by demodicosis (features clinical paintings, diagnosis, treatment and prevention).

Neoplasm for ever (benign, malignant). Indication to surgical treatment, cryodestruction, radiation therapy, diathermocoagulation and chemotherapy.

Congenital anomalies lacrimal gland. Dacryoadenitis. Etiology, clinic, methods diagnostics, course, complication. Principles treatment. Syndrome Sjogren ("dry" eye syndrome under time damage tearful and others exocrine glands). Pathogenesis, stage clinical I will run consequences. Methods diagnostics and therapy. The role of the general practitioner profile in timely diagnosis complex treatment syndrome Sjogren. Neoplasm lacrimal glands (adenocarcinoma).

Clinic, course, methods diagnostics, treatment, forecast.

Congenital and acquired changes lachrymatory ways Absence or dislocation tearful point, narrowing or obliteration tearful tubules, diverticula of the lacrimal sac, stenosis of the lacrimal canal. Diagnostic methods, principles and term operational treatment.

Dacryocystitis newborns Clinical signs reasons and time appearance

Methods diagnostics and treatment, are possible complication.

Chronic dacryocystitis. Clinic, causes, course, complications. Methods operational treatment. Prevention.

Dacryocystitis acute (phlegmon tearful bag). Clinic, course, consequences. Principles of treatment and prevention.

Professional selection, labor and military expertise at pathologies tearful bodies

Inflammatory diseases of the orbit: osteoperiostitis, phlegmon of the orbit, thrombosis cavernous sinuses, are related with disease maxillofacial systems (acute and chronic periodontitis, basal granuloma, osteomyelitis of the jaws, phlegmon and abscesses maxillofacial areas and neck, boils or carbuncles face, freckles face).

Ways of spread of infection into the orbit (via venous and lymphatic vessels, hematogenous and metastatic by). General symptoms, inherent for inflammatory process in orbit

Methods of diagnosis of inflammatory diseases of the orbit, clinic and course. Neoplasm ocular dimples Benign tumors (cysts, dermoid cysts, angiomas, osteomas). Malignant tumors (sarcoma, carcinoma). Using X-rays, computer tomography, magnetic resonance tomography, venography, carotid angiography, thermography in diagnostics tumors orbit Features clinical I will run Methods of treatment.

CONTENT MODULE 2. Incendiary and dystrophic disease eye Specific objectives:

Be able to evaluate state injections eye apples

Interpret data, received at to the side lighting corneas, front cameraeye in norms and pathologies

Interpret biomicroscopy data of the cornea, anterior chamber, iris,lens, vitreous bodies, in norms and at pathologies

Be able to provide urgent help at sharp keratitis, ulcers corneas,iridocyclitis, uveitis

Be able set diagnosis cataracts and justify treatment.Be able interpret the state intraocular pressure

Be able set diagnosis glaucoma and order granting help

Topic 4. DISEASE CORNEA, SCLERA. PATHOLOGY VASCULAR TRACT.

Conjunctivitis. Acute conjunctivitis, complaints, allocation, appearance conjunctiva, conjunctival injection eye apples and abolition from pericorneal. Etiology. Methods treatment. Prevention spread conjunctivitis in children's institutions Epidemic conjunctivitis, induced with a Koch-Weeks rod. Measures of mass prevention, sanitary and hygienic measures. Features diagnostics sharp conjunctivitis (diplobacillary,pneumococcal, diphtheria) and treatment.

Honoblenorrhoea newborns and adults her prevention and treatment.

Consequences. Treatment general and local

Viral conjunctivitis (herpesvirus, adenoviral). Featuresdiagnostics and treatment. Measles and smallpox conjunctivitis: diagnosis, clinical course, treatment and prevention.

Conjunctivitis chronic. Necessity detection and elimination chronically active factors Chronic conjunctivitis as professional pathology and activities prevention their in industry and rural economy Trachoma. Definition. Etiology. Pathogenesis. Four stages development of trachoma. Consequences. Complication. Paratrachoma. Etiology. Pathogenesis, features diagnostics and treatment. Differential diagnosis with follicular and follicular conjunctivitis Treatment: medicinal, surgical, general Treatment complications Spread and epidemiology trachoma and paratrachoma. Struggle with trachoma in Ukraine. Dystrophic changes conjunctiva (pterygoid membrane, pingvecula).

Indication to surgical treatment.

Tumors conjunctiva Benign (dermoid, papilloma), malignant (melanoma, cancer). Indication to radial therapy, diathermocoagulation, surgical treatment.

keratitis exogenous origin. Infectious keratitis bacterial origin. Ulcer corneas Conditions occurrence ulcerativeprocess in corneas Creeping ulcer corneas Clinic, course, consequences. The role of chronic dacryocystitis Treatment. Prevention: dacryocystorhinostomy, eye protection worker

Keratitis of viral etiology. Adenovirus keratoconjunctivitis. Clinic. Course. Treatment is local and general. Epidemiology. Prevention. keratitis, conditioned diseases conjunctiva, for ever and meibomian (tarsal) glands Treatment. Prevention. Catarrhal keratitis under time sharp conjunctivitis Prevention, treatment.

keratitis endogenous origin. Infectious keratitis Keratitis at congenital syphilis (parenchymal). Clinic. Cyclical course. Consequences.Causes of occurrence. Symptoms of congenital syphilis. Serological indicators. Treatment specific tonic and local symptomatic

Tuberculosis keratitis Hematogenous tuberculous keratitis under time tuberculosis metastatic iridocyclite. Pathogenesis. Clinic. Treatment general: specific complex, desensitizing tonic, treatment local: symptomatic and specific

Tuberculosis-allergic keratitis Clinic and course. General state children's body Treatment general: specific desensitizing and tonic Treatment local: specific and symptomatic Prevention tuberculosis lesions.

Neurogenic keratitis Neuroparalytic keratitis under time damage trigeminal nerve. Features of the clinic - lack of sensitivity, reactivity eye Herpetic keratitis Clinic different forms Course. Consequences. Theories pathogenesis. Treatment. Keratitis during shingles. Injury clinic corneas, skin and general state

Treatment is general and local

Mushrooms damage corneas Clinic, course, features diagnostics.

Specific methods treatment.

Avitaminosis keratitis Damage corneas at vitamin deficiency AND. Prexerosis.

Xerosis corneas Keratomalacia. Clinic. Course. Treatment. Prevention.

Dystrophies corneas Primary dystrophies: degeneration Grenouve, spotted dystrophy Fera, Lattice dystrophy Dimmer, epithelial dystrophy Mesmann, Schneider corneal degeneration, Francois familial macular dystrophy. Secondary dystrophy corneas Reasons occurrence features clinics and treatment.

Etiology, pathogenesis diseases sclera (sclerites, episclerites, ectasia staphyloma sclera, scleromalacia). Diagnostics and modern methods treatment.

Neoplasm sclera, diagnosis, treatment.

Frequency diseases vascular tract among general ocular pathologies. Heavy consequences diseases vascular tract as reason weakly vision and blindness Structure diseases vascular tract (inflammatory, dystrophic processes, neoplasms, congenital anomalies).

Inflammation vascular tract (uveitis). The most frequent reasons occurrence uveitis in people different age Pathogenetic mechanisms development uveitis: infectious-metastatic and toxic-allergic. Classification of uveitis by course, localization, clinical and morphological picture etiology, immunological status The main ones morphological, functional signs and mechanisms uveitis (choroiditis, panuveitis). Age features I will run and consequences uveitis Differentiated diagnosis diseases vascular tract depending from their etiology by clinical, laboratory (necessity auxiliary methods research: x-ray, electrophysiological and immunological) picture (influenza, collagenous, viral, tuberculous, syphilitic, toxoplasmosis he focal and etc.). Organization, principles methods general and local treatment the front and rear uveitis depending from etiology and character process Consequences. Prevention.

Dystrophic disease rainbows and military bodies Reasons occurrence Forms (chronic dysfunction ciliary bodies, syndrome Fuchs). Differential diagnosis with the front uveitis Clinic, course, principle treatment.

Anomalies development vascular shells (coloboma rainbows, coloboma ciliary body, choroid coloboma, aniridia, polycoria, chorioderma, albinism, residual pupil membrane).

Neoplasm vascular shells

Neoplasm vascular shells Benign (cysts, nevus, neurofibromas, neuroma, leiomyomas). Features clinics, principles treatment. Malignant tumors (melanoma, melanosarcoma). Diagnostics. Indication to surgical and laser treatment.

Topic 5. LENS DISEASE. DYSTROPHIC DISEASES OF THE VITREOUS BODY.

Cataract congenital and acquired (decrepitude, secondary, complicated traumatic), its development, pathogenesis, classification. Signs of cataract maturity. Methods of treatment. Indications for surgery. Aphakia, methods of correction. Cataract congenital (clinic, diagnosis, treatment). Anomalies development lens

Dystrophic changes of the vitreous body. Age-related deformation of the structure of the vitreous body. Anomalies of the development of the vitreous body.

Topic 6. GLAUCOMA.

Definition and cardinal symptoms glaucoma Classification. Value the state of the cardiovascular and nervous system in the occurrence and course of glaucoma. Open angle and closed angle glaucoma (diagnosis, clinical course). Acute attack of glaucoma. Complaints Symptoms are local and general. Course. Consequence treated and untreated acute attack. Differential diagnosis with acute erythema Treatment is urgent: conservative general and local. Indications and deadlines surgical treatment. Differential diagnosis glaucoma with initial senile cataract. Course. Treatment: regimen of miotics, indications to surgical and laser treatment, principles of surgical treatment. Regime the patient on glaucoma Dispensary.

Born glaucoma (etiology, pathogenesis), features clinics and treatment. Secondary glaucoma, clinical shapes, principles diagnostics and treatment.

Blindness because of glaucoma Prevention, methods early diagnostics glaucoma Active detection of

glaucoma patients. Dispensary examination of patients with glaucoma

Topic 7. PATHOLOGY RETAINERS AND ZOROVO NERVE.

Atrophy visual nerve Anomalies development disc visual nerve (coloboma, pit, myelin fibers, pseudoneuritis).

Dystrophy retina in area yellow stains (hereditary, age). Pigmented dystrophy retina

Congenital pathology vitreous bodies (primary hyperplasia, leftovers hyaloid artery). Diagnosis, treatment. Acquired pathology of the vitreous body (hemorrhage, destruction outsiders body). diagnostics, modern methods treatment.

Topic 8. CHANGES IN THE ORGAN OF VISION IN GENERAL DISEASES.

Changes in the organ of vision in hypertension, thyrotoxicosis, diseases of the kidneys, blood and diabetes - classification, clinical manifestations, methods of diagnosis and treatment.

Age-related macular degeneration. Clinic, diagnosis, treatment. Optic neuritis clinic. Reasons, differential diagnosis with congestive optic disc. Ophthalmoscopic picture of a congested disc of the optic nerve. Its value in the diagnosis of brain tumors.

CONTENT MODULE 3. Damage to the organ of vision. Sudden loss of vision Specific objectives:

Be able determine nature violations in oculomotor device eye

Be able to provide urgent help at:

a) to an outsider body conjunctiva, b) to an outsider body corneas,

Be able to provide urgent help at:

with chemical and thermal burns of the organ of vision, penetrating wounds, explain changes with parties retina and visual nerve at sudden loss visual functions, to be able to interpret changes with parties body vision at general diseases body (sugar diabetes, atherosclerosis, hypertensive disease).

Topic 9. DAMAGE ORGAN SIGHT. EMERGENCY AID.

Classification injuries body vision Organ contusions vision

Contusion of the eyelids. Hemorrhages under the skin of the eyelids, their sources. Subcutaneous emphysema. Contusions eye apples: damage corneas, sclera, rainbows, subconjunctival tears of the sclera, damage to the ciliary body, hemorrhages in vitreous body, damage lens (traumatic cataract), shake retinas, gaps and exfoliation retinas, damage visual nerve Symptoms and diagnostic methods. Treatment of the consequences of contusions of the eyeball and additional device eye

Outsiders bodies conjunctival cavities and corneas Methods detection, selection

Penetrating wound eye apples, absolute and relative signs penetrating wounds eye Principles granting specialized help complication. Dispensary.

Burns eye and him appendages Symptoms and clinical course burns for ever, conjunctiva, corneas at acidic, alkaline and thermal burns Burns radiant energy (ultraviolet, infrared, x-ray, ultrasonic radiation). The first help. Treatment pathogenetic, symptomatic, medicinal, surgical Complication and modern methods treatment.

Professional injuries of the organ of vision. Eye trauma in industry, his causes, nature, measures to combat it. Features of agricultural injury eyes Organization itself- and mutual aid and delivery to specialist Damage eyes in chemical industry the reasons methods struggle with by him

Occupational eye diseases. Effect of mechanical dust on eyelids, conjunctiva, cornea. Consequences constant actions chemically active substances directly on eyes and in as a result general intoxication Professional disease eyes because of constant actions radiant energy Principles organizations struggle with by eye traumatism: activities sanitary and technical, activities of individual protection

Topic 10. EMERGENCY CONDITIONS IN OPHTHALMOLOGY (ACUTE OBSTRUCTION OF THE CENTRAL RETINAL VEIN AND ITS BRANCHES, EMBOLISM OF THE CENTRAL RETINAL ARTERY, RETINAL DETACHMENT, ORBITAL

PHLEGMONA).

Acute occlusion of the central retinal vein and its branches. Clinic, diagnostics, treatment. Urgent help. Forecast, consequences. Embolism central retinal arteries, features of the clinical course, diagnosis, treatment, provisionurgent help consequences.

Exfoliation retina Etiology, pathogenesis, features ophthalmologicalpaintings Terms and methods of operative interventions. Use of modern methodstreatment . Role photo- and laser- coagulation in prevention and treatment retinal detachment. Consequences.

Neoplasm retina Features clinical I will run (retinoblastoma),ophthalmoscopic paintings Modern methods diagnostics and treatment.

Topic 11. CHANGES AUTHORITY SIGHT AT GENERAL DISEASES.

Changes eye at cardiovascular diseases (hypertensive and hypotonic diseases, atherosclerosis).

Change body vision at diseases of blood (leukemia, malignant anemia),toxicosis pregnant women diseases kidney, in patients with AIDS.

Changes in the organ of vision during diseases of the endocrine system (diabetes, diseases thyroid glands, pituitary gland).

Medical expertise eye diseases Solution question about temporaryloss of working capacity, and terms, as well as permanent incapacity in connection with by profession Definition groups disability Employment persons with muchreduced and lost visual function Ukrainian company the blind (UTOS). Simulation, aggravation, dissimulation of visual functions. Subjective and objective methods of their detection. Requirements placed on the organ of vision during selection into the units of the Ukrainian Army. List diseases, what limit suitability and determine unfitness for service in the army. Military medical examination. Commissions, their composition, functions. Methods of finding out simulation and dissimulation visual violations Organization ocular help in Ukraine. Regional and district Ophthalmologists Eyes offices district polyclinic and medical parts, therapeutic and preventive work. Eyes inpatients Study of binocular vision. Binocular vision and its essence. The concept ofcorresponding and inappropriate points retina Physiological doubling. Conditions deep vision The role of the cerebral cortex in stereoscopic vision. Scheme work of eye motor muscles. Fixation and fusion eye movements. Reflex educationfusion Rating depth, corner Methods definition binocular vision: installation movement by help two pencils, experiment with "hole in palms".

Theme 12. PATHOLOGY OCULOMOTOR APPARATUS.

Violation of binocular vision vision

Changes oculomotor device, which most often happen Disorder deep (binocular) vision. Imaginary and hidden strabismus. Common and paralytic strabismus. Principles treatment joint and paralytic squint Prevention squint nystagmus, reasons occurrence principles treatment.

Iridodiagnosis as method evaluations constitutional opportunities reactions body on pathologic process.

3. Thematic plan lectures

No	Topic	Number of hours
1	Diagnostics and urgent help, prevention inflammation of the eyelids, lacrimal organs and orbit (barley, abscess, dacryocystitis, periostitis, phlegmon orbits). Diagnostics inflammation conjunctiva and shell eye ("red eye" – conjunctivitis, keratitis, iridocyclites, introduce retinitis, endophthalmitis, panophthalmitis). Diagnostics and treatment. Prevention.	2
2	Gradual decrease vision: Presbyopia. Cataract: born acquired (traumatic, complicated secondary, decrepitude). diagnostics, treatment, prevention	2

3	Glaucoma. diagnostics, treatment, prevention	2
4	Emergencies in ophthalmology. Algorithm of priority actions.	2
5	Damage body vision and additional device eye Urgent help. Prevention, dispensary	2
	Together	10

4. Themes practical classes

Contentful module 1		
No	Topic	How many hours
1	Anatomical and topographic features of the organ of vision. Functions body vision	4
2	Refraction and accommodation Strabismus.	4
3	Diseases of the eyelids, lacrimal organs and orbits, conjunctiva.	4
Contentful module 2		
4	Diseases of the cornea, sclera, vascular shells	4
5	Lens disease. Dystrophic diseases vitreous bodies Diagnosis and treatment.	4
6	Glaucoma. Diagnosis and treatment.	4
7	Disease retinas, visual nerve	4
8	Changes body vision at general diseases	4
Contentful module 3		
9	Damage to the organ of vision. Urgent help. Treatment of patients.	4
10	Urgent state in of ophthalmology (sharp occlusion of the central vein of the retina and its branches, embolism central arteries retinal detachment retinas, phlegmon orbits).	4
11	Changes in the organ of vision in inflammatory diseases.	4
12	Pathology of the oculomotor apparatus.	4
13	Differentiated test	4
	Together	52

5. Independent work

No	Topic	hours	Kinds control
1	Preparation for practical classes- theoretical training content module 1. Determine visual acuity; Define the field vision; Determine color vision; Define dark adaptation; Determine clinical refraction; Determine accommodation and explain changes; Determine changes position eyeapples in orbit; Determine tear production Determine passability tear ducts and conduct interpretation changes	2	Current CONTROL on practical classes
2	Preparation of a scientific review literature or conduct research (individual work).	1	Current CONTROL

3	Topics that are presented for independent processing: 1. History development of ophthalmology in 17-20 centuries 2. Anatomy, physiology body vision	2	Final CONTROL
Contentful module 2			
1	Preparation for practical classes-theoretical training and development of practical skills 1. Carry out examination corneas by help lateral lighting; 2. Carry out an examination front camera by help lateral lighting; 3. Carry out an examination optical environment eye in light, what passes; 4. Determine ciliary sensitivity; 5. Conduct interpretation state intraocular pressure by and/ help tonometer ,b/ palpable; 6. Conduct interpretation state eye the bottom (disc visual nerve retinas, vessels)	5	Current CONTROL on practical classes
2	Preparation review scientific literature or conducting research (individual work)	2	Current CONTROL
3	Topics that are presented for independent processing: Neoplasm body vision	1	Current CONTROL
4	Topics that are presented for independent processing: Disease sclera	1	Final control
Contentful module 3			
1	Preparation to practical classes- theoretical training and processing practical skills 1. Be able give urgent help at chemical, thermal burns; 2. Be able give urgent help at penetrating injuries; 3. Conduct interpretation changes body vision at general diseases; 4. Master the ability to determine the angle strabismus: and/ on Hirschberg b/ by help perimeter; 5. Be able conduct interpretation changes body vision at neoplasms; 6. Be able conduct interpretation changes body vision and explain installation groups disability	9	Current CONTROL on practical classes
2	Preparation review scientific literature or conduct research (individual work)	3	Current CONTROL
3	topics, what carried out for independent processing: Changes body vision at common diseases	1	Current CONTROL
4	topics, what carried out for independent processing: Expertise in ophthalmology	1	Differential calculation
	Together	28	

6. Individual tasks.

Individual tasks are one of the forms of organization of training, which aims to deepen, generalize and consolidate the knowledge that students receive in the learning process, as well as the application of

this knowledge in practice. Individual tasks are performed by students independently under the guidance of the teacher.

Individual tasks include: writing abstracts and creating multimedia presentations with reports at meetings of the department's scientific student circle, participation in the department's scientific and research work, participation in writing theses and articles for reports at student scientific conferences.

List of tasks for individual student work: Protection of an individual research project, participation in the work of a student scientific circle and speeches at scientific forums; participation in the student Olympiad in discipline; selection of video and audio materials from sections of the academic discipline; selection of materials and creation of a presentation on a relevant topic or section of the discipline.

7. Teaching methods

According to the sources of knowledge, teaching methods are used: verbal - story, explanation, lecture, instruction; visual - demonstration, illustration; practical - practical work, problem solving. According to the nature of the logic of knowledge, methods are used: analytical, synthetic, analytical-synthetic, inductive, deductive. According to the level of independent mental activity, the following methods are used: problem-based, searching, research.

1. Verbal methods: lecture, conversation;
2. Visual methods: illustration, demonstration
3. Practical methods: performing practical work and solving clinical situational tasks to develop skills and abilities;
4. Students' independent work on understanding and assimilation of new material
5. Use of control and educational computer programs
6. Innovative teaching methods: Case - based learning (Learning through the analysis of a clinical case, situation); brainstorming; educational discussion; educational debate; role play; Team-based learning; Think-pair-share.

The types of training according to the curriculum are: lectures; practical training; independent work of students.

8. Control methods

Current control is carried out on the basis of control theoretical knowledge, practical skills and abilities.

Forms of current control are: *in the dream survey* (frontal, individual, combined), interview; **practical verification of the formed professional skills** (carried out based on the results of solving clinical cases, working with medical documentation, performing practical skills, working at the patient's bedside); **test control** ("open" and "closed" test tasks).

Current control is mandatory. During the evaluation of mastering of each topic from all disciplines of the curriculum for the current educational activity, the student is given grades on a 4-point (traditional scale) taking into account the approved evaluation criteria for the discipline. All types of work provided by the curriculum are taken into account. The student must receive a grade in each topic. The teacher conducts a survey of each student in the group at each lesson and assigns a grade in the journal of attendance and student performance according to the traditional scale ("5", "4", "3", "2").

When evaluating the student's current educational activity, 20% of the grade is the student's independent work, which takes into account the knowledge of the topic of independent study and the performance of work in the notebook.

The final (summary) control is carried out :

- in the form of a written test, which includes test tasks, theoretical questions
- control of practical skills (solving clinical cases, defense of medical history, assessment of the correctness of practical skills - practical-oriented exam.

According to the specifics of professional training, preference is given to test and practically oriented control.

Differential assessment is a form of final control of the student's assimilation of theoretical and

practical material from the academic discipline.

9. Scheme of accrual and distribution of points received by students.

The maximum number of points for a discipline is 200 points. The ratio between the results of the evaluation of the current educational activity and the final control of knowledge is 60% and 40%.

The study of the discipline ends with a final control in the form of a differential assessment.

Only those students who do not have academic debt (all missed classes have been completed) and whose average score for the current educational activity in the academic discipline is at least "3" are admitted to the differential credit.

The maximum number of points that a student can score for the current educational activity for admission to the differential credit is 120 points and is defined as the sum of the arithmetic average of all grades received in the semester.

The minimum number of points that a student must score for the current educational activity is 72 points. Recalculation of the average grade for the current academic performance (on a 120-point scale) in the table. 1.

Table 1.

Recalculation of the average grade for the current academic performance in a multi-point scale for disciplines ending with a differential credit

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	120	4.29	103	3.58	86
4.96	119	4.25	102	3.54	85
4.92	118	4.21	101	3.50	84
4.87	117	4.17	100	3.46	83
4.83	116	4.12	99	3.42	82
4.79	115	4.08	98	3.37	81
4.75	114	4.04	97	3.33	80
4.71	113	4.00	96	3.29	79
4.67	112	3.96	95	3.25	78
4.62	111	3.92	94	3.21	77
4.58	110	3.87	93	3.17	76
4.54	109	3.83	92	3.12	75
4.50	108	3.79	91	3.08	74
4.46	107	3.75	90	3.04	73
4.42	106	3.71	89	3	72
4.37	105	3.67	88	Less than 3	Not enough
4.33	104	3.62	87		

The maximum number of points that a student can score when taking a differential assessment is 80 (the minimum number is at least 50).

Discipline assessment is defined comprehensively as the sum of points for the current educational activity and points for differential assessment.

From the allocated 120 points for the current educational activity, 4 to 12 additional points are allocated for the assessment of individual independent work of higher education applicants, according to the work curriculum. Encouragement points are added to the final grade for the discipline at the end of its study.

Points with disciplines for students, which successfully completed the program are converted into the national scale and ECTS system (Table 2).

Table 2

Scale assessment: national and ECTS

Total points for all types educational activity	Rating ECTS	Rating by national scale	
		for exam, diff. offset	for offset
180-200	AND	perfectly	counted
160-179	IN	fine	
150-159	WITH		
130-149	D	satisfactorily	
120-129	E		
50-119	FX	unsatisfactorily with the possibility of refolding	not counted with possibility rearrangement
0-49	F	unsatisfactorily with mandatory repeated studying the discipline	not counted with mandatory repeated studying the discipline

10. Methodical support

1. Working curriculum of the discipline;
2. Plans of lectures, practical classes and independent work of students;
3. Abstracts of lectures on the discipline;
4. Methodical instructions for practical classes for students;
5. Methodical materials that ensure independent work of students;
6. Test and control tasks for practical classes;
7. List of exam questions

11. List of questions for preparing students for differentiated assessment

Contentful module 1:

- Visual analyzer, his value in recognized external the world
- The concept of absolute, professional and public blindness. The main ones reasons to go blind
Prevention to go blind in adults and children
- Blindness. Indicator to go blind Teaching and employment the blind.
- Formation of visual images. The role of the cerebral cortex in the act of vision. Theories act sight
- Cornea. her building, blood supply, properties and functions.
- Rainbow her building, blood supply properties and functions.
- CILIARY and choroidea, functions.
- Muscles rainbows, and eyelash bodies retina, her building, functions stick and cap
- Anatomy visual nerve features him structures and topography.
- crystal Him functions, feeding, properties
- Blood supply eye apples
- Building orbit and her content
- Muscles eyelid Ih function and innervation
- Building conjunctiva Clinical signs her normal state
- Anatomy lachrymatory bodies Methods research lachrymatory ways
- External muscles eye Ih innervation and functions.
- twilight eyes him violation, methods research
- Study of acuity vision Formula visual acuity
- Principles buildings tables for definition sharpness vision Angle vision
- Peripheral sight and him research Kinds violations fields vision
- Color perception, its disorders, research methods. Theories color sense
- The main ones elements light-refracting systems eye Concept about diopter
- Kinds clinical refraction Role external environment in forming refraction

- Methods definition refraction (objective and subjective).
- Correction ametropia in children
- Optical glasses and their applications. Contact lenses and their application.
- volume and length accommodation, her communication with by refraction. The furthest and the closest points clear vision
- Accommodation and her ages changes Presbyopia.
- hypermetropia, her clinic, diagnostics and correction
- Myopia, her clinic, reasons development
- **Complication myopia Prevention progression myopia**
- **Astigmatism, him species and correction**
- Anomalies of the position of the eyelids (entropion, ectropion, ptosis, lagophthalmos). Reasons their occurrence, clinic, methods treatment
- Incendiary disease eyelids barley, chalazion Clinic, treatment
- Blepharitis, them clinic and treatment
- **Chronic dacryocystitis, him etiology, clinic, treatment**
- Phlegmonous dacryocystitis, clinic and treatment
- Dacryocystitis babies clinic and treatment
- Incendiary disease orbit (osteoperiostitis, phlegmon orbits, thrombosis cavernous sinuses), clinic and treatment.
- **Contentful module 2:**
- Methods of research of the anterior part of the eye (focal, bifocal lighting, biomicroscopy).
- Methods research optical environment eye
- Clinical course and methods of treatment of acute inflammation of the mucous membranes shells
- **Clinical reveal etiology and methods treatment chronic conjunctivitis**
- Honoblenorrhoea babies and adults Prevention.
- Adenoviruses conjunctivitis Ih clinic and treatment
- Diphtheria eye her clinic, diagnostics, treatment
- **Differential diagnostics follicular lesions conjunctiva (trachoma, folliculosis follicular conjunctivitis).**
- General principles treatment trachoma
- Stages trachoma, them clinic Public and personal prophylaxis tic trachoma
- **Complication trachoma with side eyelid and corneas**
- **Classification keratitis General principles them treatment**
- **Clinic and consequences keratitis**
- Creeping ulcer horny shell. her clinic and treatment
- Parenchymatous keratitis Him clinic and treatment
- Herpetic keratitis Ih diagnostics and treatment
- Serous iridocyclite. Him clinical features ran over diagnostics, treatment
- **Clinical signs fibrinous iridocyclite, etiology, pathogenesis, method treatment**
- **Complication and consequences iridocyclites.**
- Treatment iridocyclites. Means, what expand pupil Indication and contraindication to them application.
- **Paths outflow intraocular liquids**
- **Dynamic classification glaucoma**
- Methods early diagnostics glaucoma Value dispensary examination patients with glaucoma
- **Clinical forms primarily glaucoma, treatment**
- **Differential diagnostics primarily glaucoma and cataracts**
- **Acute attack of glaucoma, its clinic. Differential diagnosis with iridocyclite.**

- Urgent help at sharp attacks glaucoma
- Secondary glaucoma, her reasons clinic, treatment
- Born glaucoma, her reasons clinic i treatment
- Anomalies position lens, diagnostics, complication, treatment
- Born cataract. Clinic, diagnostics, methods treatment
- Stages development elderly cataracts Diagnostics and treatment
- Diagnosis and conservative treatment of the initial stage of senilitycataracts
- Traumatic cataract. Features her run, complication, surgical treatment
- Complicated cataract, her reasons clinic, treatment
- Secondary cataract, her clinic, reasons occurrence surgical treatment
- aphakia, her signs correction

Contentful module 3:

- The main ones conditions binocular vision Value binocular vision in electionsprofession
- Strabismus, diagnostics, species
- hidden strabismus, clinic, diagnostics
- Imaginary strabismus, clinic, diagnostics
- Principles treatment cooperatively squint
- Paralytic strabismus, its signs, differential diagnosis, methodstreatment
- Signs penetrating wounds eye apples Urgent help atthem
- Penetrating eye injuries complicated by the presence of a foreign body.
- Methods localization outsider bodies in eyes
- Principles removal intraocular outsiders tel at penetratingeye injuries
- Complication penetrating wounds
- cute inflammation, him clinic, prevention, treatment
- Contusions eye apples Ih manifestations and treatment
- Outsiders bodies corneas and urgent help at them
- Electroophthalmia clinical manifestations and the first help.
- Endophthalmitis and panophthalmitis Ih clinic, reasons treatment
- Chemical burns eyes, clinic, urgent help.
- Thermal burns eyes, clinic, urgent help.
- Intraocular tumors, clinical ran over treatment
- Militarymedical expertise at diseases eyes
- Detection aggravation and simulation Control methods detection sharpnessvision
- Installation groups disabilities as a result violation vision
- Ophthalmoscopy, her species
- Painting normal eye the bottom
- Clinic neuritis visual nerve the reasons differential diagnostics withstagnant disc visual nerve
- Exfoliation nets, etiology, clinic, treatment
- Sharp violation blood circulation networks the reasons clinic, treatment

LIST PRACTICAL SKILL

for differentiated offset

- Be able to:
- determine sharpness vision subjective method
- determine color sense by using Rabkin's polychromatic tables
- determine field vision control method and using the arc perimeter
- determine dark adaptation indicative method

- Be able to to spend research and to evaluate results:
- review i inside out for ever
- research corneas method lateral lighting
- examine sensitivity corneas
- palpable to determine sensitivity military bodies
- palpable determine intraocular pressure
- research lens in passing bright
- definition corner squint by Hirshberg
- Be able to to provide urgent help at:
- sharp iridocyclites
- sharp conjunctivitis
- to an outsider body conjunctiva, corneas
- sharp attacks glaucoma
- penetrating injuries eye
- chemical and thermal burns eye

12. Recommended literature

The main one

1. Eye diseases. Edited by G.D. Zhaboyedova, M.M. Sergiyenko, K.: "Health", 1999.-310 p.
2. Therapeutic ophthalmology. Manual of ophthalmology. Edited by G.D. Zhaboyedova, AO. Vatchenko, K.: "3 dorovya", 2003.-133 p.
3. Wills Clinic. Diagnosis and treatment of eye diseases. Edited by Douglas Cullom and Benjamin Chung. Medicine of the world - 1999 - 492 p.
4. Eye diseases: Textbook / Under the editorship. Kopaevoy V.G. M.: "Medicine". 2002.-560 p.

Auxiliary

1. Eye diseases and injuries EE Somov "St. Petersburg". 2002 - 236 p.
2. Clinical ophthalmology / Ed. Jack J.

Look After Your Eyes

Important information on eye health, examinations, and conditions from the College of Optometrists. lookafteryoureyes.org

Modern Optometry

Latest developments and in-depth analysis of issues relevant to practicing optometrists. modernod.com

National Center for Children's Vision and Eye Health

Building awareness of the significance of vision disorders and promoting vision and eye health. nationalcenter.preventblindness.org

National Eye Institute

Federal institute supporting research, training, and health information dissemination. nei.nih.gov

NEI-VR: See What I See

Experience what it's like to live with vision loss from common eye diseases. nei.nih.gov - App Only

Neuro-Ophthalmology Virtual Education Library

Open access repository of articles, images, videos, and lectures on neuro-ophthalmology. novel.utah.edu

Ophthalmology Times

Presents advances in eye surgery, drug therapy, technology, and clinical diagnosis. ophthalmologytimes.com

Ophthalmology Web

Informative, educational, and dynamic online community space for eye care physicians. ophthalmologyweb.com

Prevent Blindness

Consumer site that provides fact sheets and information on a variety of eye conditions.
preventblindness.org

Retina Gallery

High quality images of retinal diseases and discussion of interesting retina cases. retinagallery.com

Touch Ophthalmology

Concise peer-reviewed, open access articles. Publisher of The US Ophthalmic Review.
touchophthalmology.com

Vision Center

In depth articles on eye conditions and vision correction treatments. visioncenter.org

Webvision

Online textbook covering all things related to the bioscience of the visual system.
webvision.med.utah.edu

"APPROVED"



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