



MEDICAL UNIVERSITY – PLOVDIV
FACULTY OF MEDICINE

SYLLABUS

IN

PHYSIOTHERAPY AND REHABILITATION

for acquiring a master's degree

Professional qualification
"PHYSICIAN"

from a professional direction
MEDICINE
regular form

Approved by the Department Council on № 5/18.05.2022

Confirmed by the Faculty Council - Protocol №7/13.07.2022

PHYSIOTHERAPY AND REHABILITATION

Syllabus

Discipline	Final exam/ semester	Auditorium classes				ECTS non-auditorium classes	ECTS total	Academic hours in years and semesters	
		Total	Lectures	Practices	ECTS			V year	IX
Physiotherapy and Rehabilitation	IX	45	15	30	1.5	0.7	2.2	45	-

DISCIPLINE: PHYSIOTHERAPY AND REHABILITATION

Name of the discipline

"Physiotherapy and Rehabilitation"

Type of discipline according to EDI:

Mandatory

Level of training:

Master / M /

Forms of training:

Lectures, exercises, self-preparation.

Duration of training:

One semester

Hours:

15 hours of lectures, 30 hours of practical seminars

Teaching aids:

Multimedia presentations, discussions, solving practical tasks.

Forms of assessment:

Ongoing assessment, solving tests.

Final mark forming

There are many components of the final mark which include*:

- Q1 marks from ongoing control and ongoing marks of tests;

- Q2 mark from the end exam during the exam session;

$K1=0.2$; $K2 = 0,8$

Final mark $Q = K1.Q1 + K2.Q2$

Aspects of evaluation criteria

- Excellent (6) – Student knows very good the information sources, has very deep key and extra knowledge and skills, understands the subject clearly, can solve difficult tasks, has his own logic and arguments when solving clinical cases.
- Very good (5) – Student knows very good the information sources, has very deep key and extra knowledge and skills, understands the subject clearly, can solve difficult tasks by using his knowledge, adequately uses the terms of physical and rehabilitation medicine.
- Good (4) – Student has very key and extra knowledge for solving clinical cases, but not being able to use them logically; there are also some inaccuracies in using the specific terms.
- Average (3) – Student has key knowledge for solving simple clinical cases, but he's not prepared for separately using the knowledge in solving clinical cases
- Poor (2) – student doesn't respond to any of the mentioned before.

Students get familiar with the evaluation standards, the procedures for ongoing control and final mark of knowledge and skills, feedback for their improvement during the semester at the beginning of the PRM classes.

Semester exam:

Yes

State exam:

No

Lecturer:

Habilitated lecturer from the Department of Physical and Rehabilitation Medicine.

Department:

Department of Physical and Rehabilitation Medicine.

ANNOTATION

Physical and Rehabilitation Medicine is a basic medical specialty of interdisciplinary character that studies the biological influence of natural and preformed physical factors on human organism and their practical use for the needs of preventive care, diagnostics, therapy (on its own or in combination with pharmacological and other means), and medical rehabilitation in case of various diseases.

BASIC AIMS OF THE DISCIPLINE

1. Main goal of studying the PRM discipline is getting the students familiar with the natural physical factors (sun light, mineral and plain water, curative mud, climate complexes, movements) and transformed physical factors (electrical currents, high-frequency and low-frequency electromagnetic fields, ultrasound energy, light beam, lasers, thermal impact).
2. To acquire the specific physical methods for functional assessment of the patient and defining the rehabilitation potential. Also making complex rehabilitation program for different disorders.
3. To get familiar with the possibilities of the physical factors for stimulating of the overall capability of the organism to respond during the premorbid stage by preventive and recreative activities; improving the medico-biological recovery and prophylaxy of complications during

the acute phase of different disorders; providing of maximal functional recovery, secondary prophylaxy and maximal resocialization during the recovery phase.

EXPECTED RESULTS

Upon completion of the training, students must have the following knowledge and skills:

- to know the physical, physiological and therapeutic actions of the low, medium and high frequency main currents used in electrotherapy.
- to know the physical, physiological and therapeutic actions of the light sources used in light therapy.
- to know the physiological and therapeutic effects of active and passive kinesitherapy.
- the effect that kinesitherapy has on various organs and systems, as well as on the whole organism.
- to know the physical, physiological and therapeutic actions of the basic aggregate states of water and the influence they have on various organs and systems, as well as on the whole organism.
- to know the physical, physiological and therapeutic effects of the main heat carriers - paraffin, healing mud, ozokerite, sand, dry hot air bath / sauna /, on various organs and systems, as well as on the whole organism.
- to know the physical, physiological and therapeutic actions of the main types of mineral waters and the influence they have on various organs and systems, as well as on the whole organism in internal and external application.
- to know the physical, physiological and therapeutic actions of the main climatic factors and the influence they have on various organs and systems, as well as on the whole organism. Types of climatotherapy.
- to know the basic principles of primary and secondary physical prevention.
- to know and apply the methods for functional assessment of SSS, DS, Children's organism, ODA, CNS and PNS, etc.
- to know the essence of rehabilitation, its basic principles, types, stages, rehabilitation team.
- be able to determine the rehabilitation potential of patients, the purpose, tasks and means of rehabilitation.
- to be able to compile a comprehensive rehabilitation program according to the underlying and concomitant diseases.

LECTURES

№	TOPIC	HOURS
1.	Essence, subject, sections of physical medicine. Modern trends in its development. Rehabilitation - essence, principles, rehabilitation potential. International classification for functional status, disability and health.	2h.
2.	Electrotherapy. Physiological effect of low voltage and low frequency currents and their practical use for treatment and diagnosis.	2h.
3.	Medium frequency currents. Magnetic and electromagnetic fields in medical practice. High intensity magnetic field. Ultrasound therapy and ultraphonophoresis. Shock wave therapy	2h.
4.	Biological effect of light energy. modern aspect on the use of light / infrared, visible and ultraviolet rays / for prevention and treatment. Laser therapy.	2h.
5.	Kinesitherapy - essence, types, influence of physical activity on various organs and systems. Robotic rehabilitation	2h.
6.	Resort factors and their importance for clinical practice, physioprophyllaxis and rehabilitation. Physical therapy and rehabilitation in diseases of the musculoskeletal system. Joint arthroplasty	2h.
7.	Physical therapy and rehabilitation for neurological diseases and injuries of the central and peripheral nervous system.	2h.
8.	Physical therapy and rehabilitation for some socially significant internal diseases - cardiovascular, respiratory, endocrine-metabolic	1h.

TOTAL: 15 h.

PRACTICAL SEMINARS

№	TOPICS	HOURS
1.	Structure of the physical therapy ward. Types of devices - basic device. Rules of operation and safety. Work in the sector of water, mud, paraffin and cryotherapy. More important methods.	2 h.
2.	Electrotherapy - types of currents used in physical medicine. Treatment and diagnostics with galvanic current and low frequency pulse currents / LFP /.	2 h.

3.	Electrotherapy. Medium frequency currents (MFD). Ultrasound. Aerosol and aeroionotherapy. Shockwave Therapy.	2 h.
4.	Electrotherapy. High frequency currents (HF) and magnetic field. High-intensity magnetic field.	2 h.
5.	Light therapy. Types of light energy sources, dosage, methods of prevention and treatment. Lasers in physical medicine and reflexology. High-intensity laser therapy.	2 h.
6.	Kinesitherapy - essence, types. Practical illustration of active types. Methods for some diseases.	2 h.
7.	Kinesitherapy. Practical illustration of passive types. Some of the widespread functional studies of the musculoskeletal system. Robotic rehabilitation.	2 h.
8.	Rehabilitation potential. Functional methods for determining the rehabilitation potential. Compilation of a rehabilitation program	2 h.
9.	Physioprophylaxis, physical therapy and rehabilitation of the most common cardiovascular, non-specific lung diseases, endocrine, gastrointestinal, renal, gynecological and onco-hematological diseases.	2 h.
10.	Physioprophylaxis, physical therapy and rehabilitation of some diseases in childhood: -respiratory - acute respiratory infections, bronchitis, bronchopneumonia, bronchial asthma; -Rheumatocardiological - rheumatism, cardiopathy, juvenile polyarthritis; -disorders of the exchange of substances - rickets, diabetes	2 h.
11.	Physical therapy and rehabilitation of pediatric neurological diseases: cerebral palsy and birth trauma of the brachial plexus.	2 h.
12.	Physical therapy and rehabilitation of cerebrovascular disease, discogenic radiculitis and peripheral nerve damage.	2 h.
13.	Physical therapy and rehabilitation of surgical diseases, prevention and treatment of postoperative complications, physical therapy and rehabilitation of post-traumatic and extensive processes of the central nervous system, thermal trauma, ENT and eye diseases.	2 h.
14.	Physical therapy and rehabilitation of diseases of the musculoskeletal system of traumatic nature and overuse syndromes, osteoporotic fractures, epicondylitis, peri-arthritis, joint arthroplasty.	2 h.
15.	Inflammatory and degenerative diseases of the musculoskeletal system.	2 h.

TOTAL: 30 hours

LECTURES

LECTURE № 1 - 2 hours

ESSENCE, SUBJECT, DIVISIONS OF PHYSICAL MEDICINE. MODERN GUIDELINES IN ITS DEVELOPMENT. REHABILITATION - ESSENCE, TYPES, PRINCIPLES, REHABILITATION POTENTIAL. INTERNATIONAL CLASSIFICATION OF FUNCTIONAL CONDITION, DISABILITY AND HEALTH (WHO 2001)

1. The essence of physical medicine.

Definition (the modern directions in the development of the specialty are emphasized). Subject (characterizes the energy essence of natural and reformed physical factors). Sections (emphasis is placed on the multidisciplinary nature of the specialty with brief data for each section).

2. Rehabilitation.

WHO definition. Principles that help to build a new worldview regarding the disability and fate of people with disabilities. Stages of rehabilitation, contingent, restaurants. Types of rehabilitation, staff. Normative documents concerning rehabilitation. International Classification of Functional Status, Disability and Health (WHO 2001) - the need for its application in physical and rehabilitation medicine, which aims at functional recovery and resocialization of the individual

LECTURE № 2 - 2 hours

ELECTROTHERAPY. PHYSIOLOGICAL EFFECT OF LOW VOLTAGE AND LOW FREQUENCY CURRENTS AND THEIR PRACTICAL USE IN TREATMENT AND DIAGNOSTICS

1. Brief data on the physical basis of treatment and diagnosis with low frequency currents.

2. Electrophysiological bases for the practical use of low-frequency currents.

3. Excitability of the nerve fiber. Conducting nervous excitement. Muscle excitability.

4. Biological patterns in LFC irritation. Therapeutic effects and indications for their use.

5. Excitomotor diagnostics.

6. Classical electrodiagnostics - essence, rules for conducting, informative value.

Chronaximetry - essence, rules of conduct, informative value.

7. Modern guidelines in the production of LFC devices.

LECTURE № 3 - 2 hours

THE PLACE OF MAGNETIC AND ELECTROMAGNETIC FIELDS IN MEDICAL PRACTICE. ULTRASOUND THERAPY AND ULTRAPHONOPHORESIS. SHOCK WAVE THERAPY

1. Physical characteristics of magnetic and electromagnetic fields. Modern devices.

2. Biological impact of the magnetic field on the human body.

3. Types of electromagnetic fields with high, ultrahigh and ultrahigh frequency, necessary in medical practice. Features in their biological and therapeutic action. Indications and contraindications for treatment.

4. High-intensity magnetic field.

4. Harm when working with electromagnetic fields.
5. Ultrasound therapy and ultraphonophoresis. Modern views on their application.
6. New physical factors - TEKAR therapy - nature, types;
7. Shock wave therapy - essence, types - focused and radial. Methods of application

LECTURE № 4 - 2 hours

BIOLOGICAL EFFECT OF LIGHT ENERGY. MODERN VISIONS FOR THE USE OF LIGHT FOR PREVENTION AND TREATMENT. LASER THERAPY.

Physical basics of light therapy.

Nature of light. Physical laws to which light therapy is subject. Natural and artificial light sources. Types of filters.

2. Biological impact of absorbed light energy.

Influence of light energy on various life processes of the organism.

3. Individual skin sensitivity. Dosage.

Need for light energy dosing. Dosage methods. Biodosimetry. Types of radiation. Heliotherapy (helioprohylaxis).

4. Indications and contraindications for light therapy.

5. Laser therapy - nature, generators, features of laser radiation, dosages, indications and contraindications for use in physical medicine. High-intensity laser therapy

LECTURE № 5 - 2 hours

KINESITHERAPY - ESSENCE, TYPES, INFLUENCE OF PHYSICAL LOAD ON DIFFERENT ORGANS AND SYSTEMS. TRAINING. ROBOTIC REHABILITATION.

1. Physiological bases of kinesitherapy.

The formation of the motor act in humans. Basic productions in kinesitherapy.

2. Kinesitherapy - essence. Active and passive kinesitherapeutic types. Mechanisms of action.

3. Influence of physical activity and training for the implementation of physioprohylaxis, therapy and rehabilitation.

4. Modern methods for assessment of the functional state, static and locomotor imbalance.

5. Robotic rehabilitation. Types of robots - end effector type and exoskeleton

Advantages and disadvantages. Evidence of the effect in neurological diseases.

LECTURE № 6 - 2 hours

RESORT FACTORS AND THEIR IMPORTANCE FOR CLINICAL PRACTICE, PHYSIOPROPHYLACTICS AND REHABILITATION. PHYSICAL THERAPY AND REHABILITATION FOR DISEASES OF THE MUSCULOSKELETAL SYSTEM.

1. The essence of balneology.

Types of resort factors. Climatic resources. Balneological resources. Peloid resources.

2. Biological action of resort factors.

Adaptation mechanisms of the organism and their improvement under the influence of resort factors. Approach to the use of resort factors. Conducting spa treatment, balneotherapy and climatotherapy.

3. Possibilities for using the resort factors in the physioprophylaxis and rehabilitation of some diseases - cardiovascular, pulmonary, endocrine-metabolic, degenerative, neurological, etc. General contraindications for spa treatment. Opportunities of the resort and balneological resources for maintaining the health of the healthy - recreation, spa and wellness.

4. Physical therapy and rehabilitation for diseases of the musculoskeletal system with degenerative, inflammatory, traumatic nature and overexertion.

Purpose and tasks of physical therapy. Means. Compilation of a complex rehabilitation program.

LECTURE № 7 - 2 hours

PHYSICAL THERAPY AND REHABILITATION FOR NEUROLOGICAL DISEASES AND INJURIES OF THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM.

Aim and tasks of physical therapy and complex rehabilitation for cerebrovascular disease and stroke, injuries of the CNS / brain and spinal cord /, disc disease with radiculopathy, peripheral nerve damage. Means of physical medicine to achieve functional recovery during the various stages.

LECTURE № 8 - 1 hour

PHYSICAL THERAPY AND REHABILITATION FOR SOME SOCIALLY SIGNIFICANT INTERNAL DISEASES - CARDIOVASCULAR, RESPIRATORY, ENDOCRINE. METABOLIC DISORDERS.

Purpose and tasks of physical treatment and complex rehabilitation. Means of physical medicine to achieve functional recovery during the various stages and prevention of complications. Rehabilitation in cancer patients.

PRACTICAL SEMINARS

PRACTICAL SEMINAR № 1 - 2 hours

Structure of the physical therapy ward. Types of devices - basic device. Rules of operation and safety. Work in the sector of water, mud, paraffin and cryotherapy. More important methods.

Introduction to the structure of the modern Department of Physical Medicine. Necessary equipment - types of devices, basic device. Mechanism of action of thermal factors. Rules for work in the sectors of water, heat, mud and cryotherapy. Introduction to safety techniques. Types of water and thermal procedures, dosing principles. Indications and contraindications

The student must be able to:

- to know in general the structure and furniture of the water, heat and balneotherapy sector;
- to know the differences between heat, water and balneotherapy;
- be convinced of the possibilities for treatment with affordable physical means and be able to perform procedures from the "small home physiotherapy";
- to know the indications for cryotherapy
- to be able to perform local cryotherapy

PRACTICAL SEMINAR № 2 - 2 hours

Electrotherapy - types of currents used in physical medicine. Treatment and diagnostics with galvanic current and low frequency pulse currents (LFC).

1. Electrotherapy - essence, physical bases, types of electric currents.
2. Galvanic current: a) galvanic current devices; b) physiological action and therapeutic possibilities of galvanization; c) application technique, methods, dosage; d) electrophoresis - essence, therapeutic possibilities, application technique, methods; e) indications and contraindications for galvanization and electrophoresis.
3. Low voltage and low frequency currents with adjustable parameters: a) devices; b) physiological bases of NRT work; c) application technique, selection of the more important current parameters depending on the physiological indicators of the neuromuscular apparatus; d) electrical stimulation, selection of the more important parameters; e) indications and contraindications.
4. NMS with fixed parameters - diadynamic currents: a) physical characteristics; b) physiological and therapeutic action; c) application technique, methods; d) indications, contraindications
5. Excitomotor electrodiagnostics: a) methodology of classical electrodiagnostics; b) chronoxymetry methodology

The student must be able to:

- to be acquainted with the essence, therapeutic and diagnostic possibilities of galvanic and LFPC with adjustable parameters;
- to know and make a connection between the parameters of LFC and the electrophysiological parameters of the neuromuscular apparatus;
- to know the possibilities for electrical stimulation, analgesic and tissue trophism-enhancing action of LFPC;
- to know the advantages and disadvantages of the electrophoretic treatment method

PRACTICAL SEMINAR № 3 - 2 hours

Electrotherapy. Medium frequency currents (MFD). Ultrasound. Aerosol and aeroionotherapy. Shock wave therapy.

1. Medium frequency currents - the interference and sinusoidal-modulated currents: a) Physical characteristic. Apparatus; b) Physiological and therapeutic action; c) Application technique, methods; d) Indications and contraindications
2. Ultrasound: a) Physical characteristics. Apparatus; b) Physiological and therapeutic action; c) Application technique, methods; d) Indications and contraindications.
3. Aerosol and aeroionotherapy: a) Nature, apparatus, physico-chemical bases; b) Physiological and therapeutic action; c) Indications and contraindications.
4. Shock wave therapy - essence, types - focused and radial. Methods of application

The student must be able to:

- to know the advantages and risks of administering drugs by inhalation;
- to know and be able to perform some procedures with ultrasound and phonophoresis;
- be familiar with the difference and similarity between diadynamic currents, interference currents and sinusoidal-modulated currents;
- be familiar with the basic application techniques and methodologies

PRACTICAL SEMINAR № 4 - 2 hours

Electrotherapy. High frequency currents (HF) and magnetic field.

1. High frequency currents: a) Physical characteristics of ICP. Basic device of ICP generators. Types of ICP used in physiotherapy; b) Physiological and therapeutic effects of d'Arsonval currents, ultra-high frequency (UHF) currents and ultra-high microwave currents) from the centimeter and decimeter range; c) Application technique, methods; d) Peculiarities in the application of the individual ICP, general contraindications.
2. Magnetic field: a) Physical characteristics, types of magnetic fields; b) Physiological and therapeutic action; c) Methods and dosage; d) Indications and contraindications.
3. High-intensity magnetic field

The student must be able to:

- ⇒ to know in general terms ICP used in FTR practice;
- ⇒ be able to make a connection between the physical parameters and the biological action of ICP;
- ⇒ to know the possibilities of ICP for anti-inflammatory, analgesic and trophic effect and what is shown for their application;
- ⇒ be familiar with safety techniques and rules for working with ICP;
- ⇒ to be acquainted with the physiological and therapeutic action of the constant and pulsed alternating magnetic field and their healing possibilities

PRACTICAL SEMINAR №5 - 2 hours

Light therapy. Types of light energy sources, dosage, methods of prevention and treatment. Lasers in physical medicine and reflexology.

1. Physical foundations of light therapy.
2. Types of caloric and luminescent light sources.
3. Biological impact of light energy from the visible, infrared and ultraviolet spectrum on various organs and systems. Albedo on the skin, filters.
4. Individual and regional skin sensitivity. Dosing of light energy.
5. Types of UV irradiation. Methods.
6. Indications and contraindications.
7. Lasers in physiotherapy practice: a) Basic design of optical quantum generators
8. Types of laser generators; b) Physiological and therapeutic action of laser radiation. Methods. Dosage; c) Indications and contraindications.

The student must be able to:

- ⇒ be familiar with the application of light from different spectral ranges;
- ⇒ be able to make a connection between the physical parameters and the biological and therapeutic action;
- ⇒ be able to describe skin reactions to light from different spectra;
- ⇒ be able to perform and report biodosimetry;
- ⇒ to know the basic treatment methods for ultraviolet radiation;
- ⇒ be familiar with the possibilities of low-intensity laser radiation to affect trophism, microcirculation and tissue regeneration;
- ⇒ be familiar with the application of "soft" lasers in physical medicine

PRACTICAL SEMINAR № 6 - 2 hours

Kinesitherapy - essence, types. practical illustration of active species. Methods for some diseases.

1. Classification of active kinesitherapeutic types.
2. Forms of active species: a) gymnastic exercises; b) exercises of an applied nature; c) games.

3. Due to the dominance of gymnastic exercises in kinesitherapy programs, they will be illustrated in terms of: a) the type of muscle contraction; b) the anatomical feature; (c) the prescribed starting position; (d) the specific purpose.
4. Dosage of a specific kinesitherapy procedure.
5. Use of aids - crutches, canes, tutors, etc.

The student must be able to:

- ⇒ to know the place and importance of CT in medicine;
- ⇒ to know the possibilities for impact of different forms, methods of exercise therapy and other types of active CT: occupational therapy, field treatment, specialized methods: proprioceptive neuromuscular relief, Bobat's method, postisometric relaxation, suspension and pulithery.
- ⇒ be able to perform manual muscle testing of certain muscles and muscle groups;
- ⇒ to be able to perform kinesiological testing of a patient and to make a connection between the kinesiological status and the available pathology

PRACTICAL SEMINAR № 7 - 2 hours

Kinesitherapy. Practical illustration of passive types, acquaintance with the more widespread functional studies of the musculoskeletal system. Robotic rehabilitation.

1. Classification of passive types of kinesitherapy: a) Therapeutic massage - illustration of the basic techniques, demonstration of a massage procedure for a specific disease; b) Review of the main types of reflex massage - informative acquaintance with acupressure on some biologically active points in headache and migraine; c) Demonstration of cervical extension; d) Demonstration of manual mobilization techniques in case of peripheral joint blockage.
2. Robotic rehabilitation. Types of robots in rehabilitation - end effector type and exoskeleton. Advantages and disadvantages. Application in neurological diseases

The student must be able to:

- ⇒ to know the essence of the main forms of passive CT: massage, manual therapy and mechanotherapy (extension therapy);
- ⇒ to be able to perform the basic massage techniques of the classical therapeutic massage;
- ⇒ to know the possibilities of other types of reflex massages;
- ⇒ to be acquainted with the essence of manual medicine as a method for research in vertebrogenic diseases and its healing possibilities;
- ⇒ to be acquainted with the treatment risks in case of incompetently performed manual manipulations on the spine;
- ⇒ be familiar with the indications for the use of extension therapy.

PRACTICAL SEMINAR № 8 - 2 hours

Rehabilitation potential. Functional methods for determining the rehabilitation potential. Compilation of a rehabilitation program.

Assessment of the rehabilitation potential.

1. Practical acquaintance with the following methods for functional examination: Somatoscopy and anthropometry; Measurement of the volume of movement in the peripheral joints (angle agglomeration of the shoulder joint and acquaintance with the code registration of the volume of movement); Tests to measure the mobility of the spine (Ot, Schober, Hirz, etc.); Manual-muscle testing (MMT) - analysis of the more important elements of the method. Mastering the testing of flexors and extensors of the

elbow joint Bicycle ergometry - a method for studying the physical capacity and training of the cardio-respiratory system.

2. Modern methods for estimating deviations in statics and locomotion.
3. Organizing a rehabilitation team to develop the rehabilitation program.
4. Discussion of specific procedures with physical factors and their inclusion in the rehabilitation program.

The student must be able to:

- ⇒ to conduct the functional tests listed above;
- ⇒ to get acquainted with the principles and tasks of the rehabilitation team.

PRACTICAL SEMINAR № 9 - 2 hours

Physioprophylaxis, physical therapy and rehabilitation of the most common cardiovascular, non-specific lung diseases, endocrine, gastrointestinal, renal, gynecological and onco-hematological diseases.

1. Aim and tasks of physical treatment and rehabilitation in patients with myocardial infarction according to the stage of the disease process: a) Acute phase - a program for gradual physical activity by controlling the main hemodynamic parameters; b) Phase of coalescence (early and late) - bicycle ergometric determination of the physical working capacity, strain frequency index, determination of the training pulse; c) Supporting stage - individual training programs, principles in their determination, functional classes.
2. Place of physical factors for physioprophylaxis and complex treatment of arterial hypertension.
3. The role of natural and reformed physical factors in the complex treatment of patients with non-specific lung diseases.
4. Possibilities of physical factors in the treatment of obesity, diabetes, gout and complications.
5. The place of balneotherapy in gastrointestinal and renal and urological diseases.
6. Introduction to some physiotherapeutic methods for more common diseases
7. Physical treatment of inflammatory diseases in gynecology and the fight against infertility.
8. Peculiarities of physical treatment in some onco-hematological diseases: hemophilic arthrosis, myeloma, drug polyneuropathy, etc.

Note - in all topics related to specific diseases, the indications and contraindications for physical treatment are discussed

The student must be able to:

- ⇒ to know the cardiological control in the rehabilitation of acute myocardial infarction;
- ⇒ to know the stages and phases of rehabilitation in uncomplicated and complicated AMI;
- ⇒ to distinguish the functional classes and to be able to determine the regime of the cardiac patients;
- ⇒ to be able to compile a rehabilitation program for a patient who has suffered AMI in the convalescent and maintenance phase;
- ⇒ to know the basic principles of physiotherapy and rehabilitation of hypertension, varicose veins and phlebitis;
- ⇒ to know the physical methods of treatment for asthma attacks and outside the asthmatic period
- ⇒ to be acquainted with the possibilities for balneotherapy of some endocrine, gastroenterological and nephro-urological diseases;
- ⇒ to be acquainted with the absolute and relative contraindications for physiotherapy of some onco-hematological diseases

PRACTICAL SEMINAR № 10 - 2 hours

Physioprophylaxis, physical therapy and rehabilitation of some diseases in childhood: respiratory - acute respiratory infections, bronchitis, bronchopneumonia, bronchial asthma; rheumatic cardiology - rheumatism, cardiopathy, juvenile polyarthritis; metabolic - rickets, diabetes.

Against the background of the anatomical and physiological features of the child's body are considered: Briefly the nature of the disease. The more significant pathogenetic changes. The tasks of behavior in treatment and rehabilitation plan. Physioprophylaxis - consideration of the tasks of primary and secondary physioprophylaxis

The student must be able to:

- ⇒ to be informed about the anatomical and physiological features of the child's organism, important for the physical therapy and rehabilitation;
- ⇒ to be acquainted with the treatment-rehabilitation behavior in children with non-specific lung diseases in the stage of exacerbation and in the stage of remission;
- ⇒ to be able to compile a long-term rehabilitation program;
- ⇒ to be acquainted with the criteria for sanatorium treatment in children;
- ⇒ be familiar with the cardiac control of physical activity in children with cardiopathy, rheumatism and juvenile rheumatoid arthritis

PRACTICAL SEMINAR № 11 - 2 hours

Physical therapy and rehabilitation of children's neurological diseases: cerebral palsy and obstetric paralysis.

The structure of practical seminar № 10 is preserved, as in a more extended form the peculiarities in the formation of the motor act are presented, based on the tonic, postural and conditioned reflexes and kinesitherapeutic possibilities in this direction. Physioprophylaxis. Possibilities of physical factors to prevent contractures and malnutrition. Demonstration of a kinesitherapy program - methods of Voita and Bobat

The student must be able to:

- ⇒ be familiar with the social significance and rehabilitation problems of children with neurological disabilities;
- ⇒ to know the algorithm of behavior of GPs in children with neurological disabilities;
- ⇒ be informed about the possibilities of reflex kinesitherapy in neurologically disabled children and the possibilities for prevention of severe disability

PRACTICAL SEMINAR № 12 - 2 hours

Physical therapy and rehabilitation of cerebrovascular disease, discogenic radiculitis and peripheral nerve damage

1. Purpose and tasks of physical treatment in patients with stroke: a) in the acute stage - prevention of respiratory congestion, contractures and pressure ulcers; b) in the rehabilitation - assessment of the rehabilitation potential, testing of the spasticity according to Brunnstrom, Locomotor test; c) in the residual stage - prevention of recurrences and complications. Compilation of a rehabilitation program. Demonstration of a complex rehabilitation program in a patient with a stroke.
2. Physical treatment and rehabilitation for peripheral nerve injuries a) Criteria and principles in preparing the rehabilitation program; b) Features in the physical treatment of Neuritis n. facialis and prevention of complications.
3. Compilation of a rehabilitation program for discogenic radiculitis.

The student must be able to:

- ⇒ to be able to determine the rehabilitation problems of a patient with post-stroke hemiplegia (paresis) according to the severity of the injury, location, age, concomitant diseases, etc .;
- ⇒ to know the tests for determining the spasticity of Brunström, ADL and the locomotor test;
- ⇒ to be able to draw up a model of a rehabilitation program for a specific patient with hemiparesis, including in the long run;
- ⇒ to be informed about the diagnostic and prognostic possibilities of the electrodiagnostic methods in physical medicine and their place in the rehabilitation of peripheral nerve injuries;
- ⇒ to be familiar with the rehabilitation behavior in peripheral nerve injuries;
- ⇒ to be acquainted with the principles of rehabilitation in disc disease in acute and subacute stages and during remission;

PRACTICAL SEMINAR № 13 - 2 hours

Physical therapy and rehabilitation of surgical diseases, prevention and treatment of postoperative complications, physical therapy and rehabilitation of post-traumatic and extensive processes of the central nervous system, thermal trauma, ENT and eye diseases.

1. Principled behavior in patients with traumatic brain injury and volume occupying processes in the early postoperative period. Role of physical factors for functional recovery and readaptation of patients.
2. Behavior in patients with spinal cord injuries: a) in the acute period - tasks of physical therapy within a complex approach b) tasks of physical therapy and rehabilitation during the early recovery period; c) behavior during the late recovery stage - a long-term program covering the problems of medical, vocational and social rehabilitation.
3. The place of physical factors in the treatment of urological diseases. Getting acquainted with the balneological resorts, where drinking balneotherapy is conducted.
4. Physical therapy for complications after thermal injuries.
5. Possibilities of physical factors in the treatment of ENT and eye diseases

The student must be able to:

- ⇒ to be acquainted with the rehabilitation problems of patients with traumas or extensive processes of the CNS;
- ⇒ to know the possibilities of the early applied rehabilitation measures for the prevention of some complications - pressure sores, contractures, congestive pneumonia, etc .;
- ⇒ to know the criteria for determining the rehabilitation potential of a particular patient;
- ⇒ to know the principles of rehabilitation in the acute phase and in the long run;
- ⇒ to be familiar with the possibilities of the reformed physical factors in "septic" surgery;
- ⇒ to be familiar with the rehabilitation behavior in patients with thermal injuries

PRACTICAL SEMINAR № 14 - 2 hours

Physical therapy and rehabilitation of diseases of the musculoskeletal system of traumatic nature and overexertion, osteoporotic fractures, epicondylitis, periarthrititis, joint replacement.

1. Possibilities of the physical factors for influencing the consequences of the injuries of the musculoskeletal system: a) in case of injuries of the soft tissues, including the ligament apparatus; b) in case of dislocations and fractures: during immobilization (features of osteosynthesis); during the period of functional recovery; c) physical therapy of algo-dystrophic syndrome and contractures. Osteoporotic fractures
2. Joint arthroplasty.
3. Physical therapy for overexertion diseases: epicondylitis, myotendinosis, vibration disease, autonomic polyneuropathy and periarthrititis

The student must be able to:

- ⇒ to know the possibilities of physical medicine for influencing some complications in traumas of ODA - joint contractures, delayed callus formation, trophoneuroses, etc .;
- ⇒ to be acquainted with the principles of rehabilitation during the immobilization and post-mobilization period;
- ⇒ to know the criteria for compiling a rehabilitation program for early and long-term rehabilitation;
- ⇒ to know the rehabilitation complex for stable fractures of the spine;
- ⇒ to know the rehabilitation problems of patients with diseases of muscle strain, joint and ligament apparatus, autonomic polyneuropathy and other occupational diseases, in view of their ability to work and their professional reorientation

PRACTICAL SEMINAR №15 - 2 hours

Inflammatory and degenerative diseases of the musculoskeletal system.

1. Inflammatory diseases:

Possibilities of physical factors for influencing various forms of rheumatoid arthritis in adults. The physical treatment of M. Bechterew.

2. Joint-degenerative diseases:

Osteoarthritis of the spine and methods of treatment with physical factors. Physical treatment and rehabilitation for gonarthrosis and coxarthrosis. Rehabilitation of patients with alloplasty of hip and knee joints

The student must be able to:

- ⇒ be convinced of the possibilities of physical therapy and rehabilitation for slowing down the evolution of degenerative joint diseases and preventing the patient's disability;
- ⇒ to know the algorithm of rehabilitation behavior of GPs;
- ⇒ to be able to determine the rehabilitation potential and to compile a rehabilitation program, including a long-term plan of a specific patient with coxarthrosis, gonarthrosis, M. Bekhterev;
- ⇒ to know the indications and contraindications for physiotherapy of collagenosis

SUGGESTED BOOKS

1. Lecture course.
2. Fundamentals of physical therapy and rehabilitation - Prof. Ivet Koleva, MD, 2011.
3. Physical therapy - general and special part, edited by Assoc. Prof. M. Ryazkova and Assoc. Prof. I. Kirova, Arso, Sofia, 2002.
4. The Physical Factors in Practical Medicine (Guide for Students from the Higher Medical Institutes), edited by Assoc. Prof. M. Marinkev, Plovdiv, 1999.
5. Physical therapy, edited by Prof. Y. Gacheva, Sofia, 1993.
6. Manual of Physical Therapy, edited by Assoc. Prof. M. Ryazkova and I. Kirova, Sofia, 1998.
7. PRM for Medical students. Maria Gabriella Ceravolo - Nicolas Christodoulou (Editors) 2018 Edi.Ermes - Milan (Italy) ISBN 978-88-7051-636-4 - Digital edition

TOPICS FOR ABSTRACTS

1. Modern aspects in the complex rehabilitation of patients with degenerative joint diseases.
2. Basic principles in the use of low-frequency pulse currents in the rehabilitation of peripheral and central nerve injuries.
3. Optimal parameters for pain inhibition with medium frequency currents.
4. Possibilities of ICP in the treatment of inflammatory process in various organs and tissues.
5. The use of lasers in physical and rehabilitation medicine - modern concepts.
6. Pathokinesiological analysis - a basis for adequate kinesitherapy.
7. Manual therapy - in fact, indications and contraindications.
8. Modern guidelines in the rehabilitation of acute myocardial infarction.

9. The peculiarities of the child's organism - the basis for an adequate rehabilitation program for respiratory diseases in childhood.
10. Cerebral palsy - social significance and rehabilitation problems.
11. Physioprohylaxis, rehabilitation and social significance of cerebrovascular disease.
12. Physioprohylaxis and complex treatment of some complications of hypokinesia and immobilization - pressure ulcers, contractures, congestive pneumonia.
13. Possibilities of physical medicine for physioprohylaxis and treatment of some complications in trauma of ODA - joint contractures, delayed callus formation, trophoneuroses.
14. Complex physical treatment in the different stages of the rehabilitation of degenerative joint diseases

15. Modern assessment of the rehabilitation potential in patients with spinal cord injuries - development of an adequate rehabilitation program.
16. Complex physical treatment in the different stages of the rehabilitation of degenerative joint diseases.
17. Complex physical treatment of peripheral nerve injuries

SYLLABUS
Physical and Rehabilitation Medicine

A. General part

1. Rehabilitation – definition, aim, rehabilitation potential, types of rehabilitation, principles of rehabilitation.
2. Galvanization and iontophoresis - definition, therapeutic effects and clinical application. Indications and contraindications..
3. Low-frequency pulsed currents - definition, physical parameters of LFC, therapeutic effects and clinical application. Indications and contraindications..
4. Electrostimulation with low frequency pulsed currents for neuromuscular injuries and hypotrophic muscles with preserved innervation.
5. Diadynamic currents - definition, therapeutic effects and clinical application. Indications and contraindications.
6. Medium frequency currents - interferential and sinusoidal-modulated currents. - definition, therapeutic effects and clinical application. Indications and contraindications.
7. High frequency currents – definition, types, principles of generation. Local D'Arsonvalization - definition, therapeutic effects and clinical application. Indications and contraindications.
8. Ultrahigh frequency currents (shortwave diathermy) - definition, therapeutic effects and clinical application. Indications and contraindications.
9. Microwave diathermy (decimeter and centimeter microwaves) - definition, therapeutic effects and clinical application. Indications and contraindications.
10. Low frequency pulsed magnetic field. - definition, therapeutic effects and clinical application. Indications and contraindications.
11. Ultrasound therapy, phonophoresis - definition, therapeutic effects and clinical application. Indications and contraindications.
12. Shock wave therapy - definition, therapeutic effects and clinical application. Indications and contraindications.
13. Inhalation therapy, aeroionotherapy. - definition, therapeutic effects and clinical application. Indications and contraindications.
14. Electrodiagnostics; chronaximetry, I/t curves.
15. Light therapy: physiologic and therapeutic effects of light energy. Clinical application of light therapy for prevention and treatment.
16. Skin reactions after the application of light energy. Biodosimetry. Methods of application. Indications and contraindications.
17. Lasertherapy - definition, therapeutic effects and clinical application. Indications and contraindications for low and high intensity laser therapy.
18. Kinesitherapy - definition, types, effects of physical activity. The role of kinesitherapy as one of the main physical and rehabilitation medicine interventions in the individual rehabilitation plan.
19. Active kinesiotherapy – definition, methods. Principles of training activities. Clinical application. Indications and contraindications. Robotic rehabilitation.
20. Passive kinesiotherapy - definition, methods. Clinical application. Indications and contraindications.
21. Hydrotherapy - definition, methods. Physiological effects and clinical application. Indications and contraindications.
22. Thermotherapy - definition, methods. Clinical application. Indications and contraindications. Cryotherapy
23. Resort therapy: balneotherapy. Classification of mineral water types. Physiological effects of some of the main types of mineral waters. Therapeutic effects. Clinical application. Indications and contraindications.
24. Peloidotherapy. Types of mud, physiological action and clinical application. Indications and contraindications.
25. Resort therapy: climate therapy: main climatic factors. Mountain climate – application for treatment and prevention. Mountain resorts.
26. Resort therapy: climate therapy: main climatic factors. Thalassotherapy as part of PRM interventions.

B. PRM in the treatment and prevention of different medical conditions

1. Cardiac rehabilitation including post-myocardial infarction. PRM in patients with hypertension.
2. PRM in patients with vascular disorders: Raynaud's disease, Buerger's disease and varicose veins.
3. PRM in patients with respiratory dysfunction: bronchitis, pneumonia, bronchial asthma.
4. PRM in patients with disorders of the digestive system (gastric and duodenal ulcers, gastritis, gallstones). PRM in patients with nephrolithiasis.
5. PRM in patients with metabolic and endocrine disorders (diabetes and its complications, obesity, gout).
6. PRM in patients in the intensive care unit. Post-intensive care unit syndrome.
7. Rehabilitation after stroke.
8. Rehabilitation of patients after traumatic brain injury and spinal cord injury (TBI and SCI).
9. PRM in patients with disc herniation and radiculopathy.
10. PRM in patients with peripheral nerve damage: mono- and polyneuropathy.
11. PRM in surgical disorders – physical modalities in wound care: surgical wounds, pressure ulcers, diabetic wounds; physical modalities in the treatment of abscess, phlegmon, panaritium.
12. PRM in traumatic injuries of the musculoskeletal system (sprains, dislocations, fractures). PRM in complications of injuries of the musculoskeletal system, including reflex sympathetic dystrophy syndrome (RSDS).
13. PRM in spine disorders (scoliosis, spondylosis, ankylosing spondylitis).
14. PRM in osteoarthritis. PRM after joint replacement.
15. PRM in rheumatoid arthritis.
16. PRM in overuse syndromes.
17. PRM in children with birth trauma of the brachial plexus.
18. PRM in children with cerebral palsy.
19. PRM in ENT disorders.
20. PRM in gynecology and obstetrics (postnatal injuries, acute mastitis, inflammatory gynecological diseases, infertility).
21. PRM in dermatology (pyoderma, acne, psoriasis)

QUESTIONS FOR SELF-PREPARATION

Topic 1

DEVICE OF THE PHYSICAL THERAPY DEPARTMENT. TYPES OF APPLIANCES - PRINCIPAL DEVICE. RULES FOR WORK AND SAFETY. WORK IN THE SECTOR OF WATER, MUD, PARAFFIN AND SCREEN TREATMENT. MORE IMPORTANT METHODS

1. What sectors are there in the Department of Physical and Rehabilitation Medicine?
2. What are the main physical factors used for prevention and treatment?
3. What is hydrotherapy?
4. What is the name of the therapy using the different aggregate states of the water for this purpose?
5. What are the main factors that affect water?

6. How is water classified according to its thermal impact?
7. Which mechanical factors affect water procedures?
8. What is the specific effect of water on various organs and systems?
9. What is the hydrotherapeutic reaction?
10. What is the hydrotherapeutic dosage?
11. What are the types of hydrotherapy procedures?
12. What are the methods in cryotherapy?
13. Which natural products can be used for heat treatment?
14. What are the methods in heat treatment?

Topic 2

ELECTRIC TREATMENT - TYPES OF CURRENTS USED IN PHYSICAL MEDICINE. TREATMENT AND DIAGNOSIS WITH GALVANIC CURRENT AND LOW FREQUENCY PULSE CURRENTS (NCP)

1. What is the physical characteristic of galvanic current?
2. What is the physiological effect of galvanic current on various organs and systems?
3. What is the therapeutic effect of galvanic current? Indications and contraindications.
4. What is electrophoresis?
5. What conditions must the drug substance and the electric current meet in order for the therapeutic effect of electrophoresis to take place?
6. What are the physical parameters of NMS with adjustable parameters?
7. What are the physiological effects of NRT with adjustable parameters in different states of electrically excitable structures
8. Which physical parameters of NRTs with adjustable parameters correspond to the physiological characteristics of the electrically excitable structures?
9. What are the optimal parameters of NRT with adjustable parameters for electrical stimulation of intact and denervated muscles to varying degrees?
10. What is the physical characteristic of diadynamic currents?
11. What is the physiological action of diadynamic currents?

12. What is the methodology of excitomotor electrodiagnostics?

13. What is the chronoxymetry methodology?

Topic 3

ELECTRIC TREATMENT. AVERAGE FREQUENCY CURRENTS. ULTRASOUND. AEROSOL AND AEROIONOTHERAPY.

1. What is the physical characteristic of medium frequency modulated currents?

2. What is the physiological action of medium frequency modulated currents?

3. What is the physical characteristic of interference currents?

4. What is the physical characteristic of interference currents?

5. What are the indications and contraindications for treatment with IBD?

6. What is the physical characteristic of ultrasound?

7. What is the principle of obtaining an ultrasound?

8. What are the main factors of action of ultrasound?

9. What is the biological and therapeutic effect of ultrasound?

10. What are the physico-chemical bases of the aerodisperse system?

11. What are aerosol generators?

12. What are the main properties of aerosols?

13. What is aeroionotherapy?

Topic 4

ELECTRIC TREATMENT. HIGH FREQUENCY CURRENTS (HF) AND MAGNETIC FIELD.

1. What is the principle of ICP generation?

2. What is the physical characteristic of high frequency currents?

3. What are the types of high frequency currents?

4. What is the physical characteristic of D'Arsonval currents?

5. What is the therapeutic effect of currents of D'Arsonval?
6. What is the physical characteristic of ultra-high frequency currents?
7. What is the therapeutic effect of ultra-high frequency currents?
8. Who is a generator of ultra-high frequency currents?
9. What is the physical characteristic of decimeter waves?
10. What is the therapeutic effect of decimeter waves?
11. What is the physical characteristic of centimeter waves?
12. What is the therapeutic effect of centimeter waves?
13. What is the physical characteristic of magnetic therapy?
14. What is the therapeutic effect of magnetic therapy?
15. Indications and contraindications for treatment with ICP

Topic 5

LIGHT THERAPY. TYPES OF LIGHT ENERGY SOURCES, DOSAGE, METHODS OF PREVENTION AND TREATMENT. LASERS IN PHYSICAL MEDICINE AND REFLEXOTHERAPY.

1. What is the physical characteristic of the light waves used for prevention and treatment?
2. What are the main types of caloric and luminescent light sources?
3. What are the main types of light rays used for prevention and.
4. What is the biological action of visible rays?
5. What is the biological action of infrared rays?
6. What is the biological action of ultraviolet rays?
7. What is the individual and regional sensitivity of the skin to UVL?
8. How is UVL radiation dosed?
9. Types of UVL irradiation schemes?
10. What are the features of laser radiation. Basically a device?
11. Requirements for working with LASER safety equipment.
12. Indications and contraindications

Topic 6

KINESITHERAPY - ESSENCE, TYPES. PRACTICAL OVERVIEW OF ACTIVE SPECIES. METHODS FOR SOME DISEASES

1. Types of kinesitherapy.
2. Types of active kinesitherapy. Essence.
3. Influence of kinesitherapy on various organs and systems.
4. Rules for conducting the kinesitherapy procedure
5. Kinesitherapy program

Topic 7

KINESITHERAPY. PRACTICAL OVERVIEW OF THE PASSIVE TYPES, INTRODUCTION TO THE WIDER PRESENT FUNCTIONAL INVESTIGATIONS OF THE musculoskeletal system

1. Types of passive kinesitherapy. Essence.
2. Types of therapeutic massage.
3. Effect of massage techniques on various tissues
4. Types of reflex massage
5. Kinesitherapeutic analysis - functional assessment of ODA, CNS, PNS, DS

Topic 8

REHABILITATION POTENTIAL. FUNCTIONAL METHODS OF DETERMINATION OF REHABILITATION POTENTIAL. DRAWING UP A REHABILITATION PROGRAM

1. Define the term "rehabilitation potential".
2. What functional tests do we use to determine the rehabilitation potential of the patient in various diseases?
3. What modern methods do we use to assess static and locomotor imbalance?
4. How does the rehabilitation team develop the rehabilitation program?
5. How are the goals of the rehabilitation program determined?
6. How are the tasks of the rehabilitation program determined?

7. How the funds of the rehabilitation program are determined?

Topic 9

Physiopreventive therapy, physical therapy and rehabilitation for common cardiovascular, lung diseases, endocrine, gastrointestinal, renal, gynecological and onco-hematological diseases

1. What are the goals and tasks of physical treatment and rehabilitation in patients with myocardial infarction according to the stage of the disease process according to the different phases of the disease and in the maintenance stage.
2. By what means can they be achieved?
3. What is the place of physical factors for physioprophylaxis and complex treatment of arterial hypertension.
4. What natural and reshaped physical factors are used to treat high blood pressure?
5. What natural and reformed physical factors are applied in the complex treatment of patients with non-specific lung diseases?
6. What are the possibilities of physical factors in the treatment of obesity, diabetes, gout and complications.
7. What is the place of balneotherapy in gastrointestinal diseases.
8. Which physical factors are appropriate to use for the treatment of inflammatory diseases in gynecology and the fight against infertility.
9. What are the features of physical treatment in some onco-hematological diseases: hemophilic arthrosis, myeloma, drug polyneuropathy, etc.

Topic 10

PHYSIOPROPHYLAXIS, PHYSICAL THERAPY AND REHABILITATION OF CERTAIN DISEASES IN CHILDHOOD: RESPIRATORY - ACUTE RESPIRATORY INFECTIONS, BRONCHIOSIS, BRONCHY RHEUMOCARDIOLOGICAL - RHEUMATISM, CARDIOPATHIES, JUVENILE POLYARTHRITIS; EXCHANGE - DIABETES

1. What are the physiological features of the child's body?
2. What is the essence of acute respiratory infections.
3. What are the more significant pathogenetic changes.
4. What is the behavior in terms of treatment and rehabilitation.
5. What are the tasks of primary and secondary physioprophylaxis.
6. What is the essence of bronchopneumonia.

7. What are the more significant pathogenetic changes.
8. What is the behavior in terms of treatment and rehabilitation.
9. What are the tasks of primary and secondary physioprophyllaxis.
10. What is the essence of bronchial asthma.
11. What are the more significant pathogenetic changes.
12. What is the behavior in terms of treatment and rehabilitation.
13. What are the tasks of primary and secondary physioprophyllaxis.
14. What is the essence of rheumatic heart disease.
15. What are the more significant pathogenetic changes.
16. What is the behavior in terms of treatment and rehabilitation.
17. What are the tasks of primary and secondary physioprophyllaxis in rheumatic heart disease.
18. What is the essence of metabolic diseases.
19. What are the more significant pathogenetic changes.
20. What is the behavior in terms of treatment and rehabilitation.
21. What are the tasks of primary and secondary physioprophyllaxis in metabolic diseases

Topic 11

PHYSICAL THERAPY AND REHABILITATION OF CHILDREN'S NEUROLOGICAL DISEASES: CHILDHOOD CEREBRAL PALSY AND OBSTETRIC PALSY

1. What are the physiological features of the child's body?
2. What is the essence of cerebral palsy?
3. What are the more significant risk factors?
4. What is the rehabilitation program? What specialized kinesitherapy techniques are used?
5. What are the tasks of primary and secondary physioprophyllaxis.
6. What is the essence of birth trauma of the shoulder plexus? What is the rehabilitation program?
7. What are the more significant etiological factors?
8. What is the behavior in terms of treatment and rehabilitation?
9. What are the tasks of physioprophyllaxis?

Topic 12

PHYSICAL THERAPY AND REHABILITATION OF VASCULAR DISEASE, DISCOGENOUS RADICULITIS AND PERIPHERAL NERVE INJURIES

1. What are the goals and objectives of physical therapy in patients with stroke at different stages of the disease?
2. What functional assessment is used to determine the rehabilitation potential.
3. What is the prevention of recurrences and complications.
4. What is the etiology of peripheral nerve damage?
5. What is functional treatment and rehabilitation for peripheral nerve damage?
6. What are the criteria and principles in preparing the rehabilitation program?
7. What are the features of the physical treatment of Neuritis n. Facialis.
8. What is the prevention of complications?
9. What is the behavior and complex treatment of discogenic radiculitis?

Topic 13

Physical Therapy and Rehabilitation of surgical diseases, prevention and treatment of postoperative complications, Physical Therapy and Rehabilitation of post traumatic and compressive processes in the CNS, heat injury, ENT and eye diseases

1. What is the basic behavior in patients with traumatic brain injury and volume occupying processes in the early postoperative period.
2. What is the role of physical factors for the functional recovery and readaptation of patients.
3. What is the behavior of patients with spinal cord injuries in different periods
4. What are the tasks of physical therapy within a complex approach?
5. What are the tasks of physical therapy and rehabilitation during the late recovery stage - a long-term program covering the problems of medical, professional and social rehabilitation.
6. What is the place of physical factors in the treatment of urological diseases?
7. What is the complex treatment, which is carried out in the balneological resorts, where drinking balneotherapy is carried out.
8. What complex treatment is suitable for physical therapy of thermal injuries and their complications.
9. What are the possibilities of physical factors in the complex treatment of ENT diseases.
10. What are the possibilities of physical factors in the complex treatment of eye diseases.

Topic 14

PHYSICAL THERAPY AND REHABILITATION OF DISEASES OF THE MUSCULOSKELETAL SYSTEM OF TRAUMATIC NATURE AND OVEREXERTION

1. What are the possibilities of physical factors for the treatment of soft tissue injuries affecting injuries of the musculoskeletal system?
2. Complex treatment of dislocations and fractures: during immobilization (features of osteosynthesis).
3. What are the possibilities of physical factors for the treatment of soft tissue injuries affecting musculoskeletal injuries during the period of functional recovery?
4. What is the complex treatment of algo-dystrophic syndrome.
5. What is the complex treatment of overexertion diseases - epicondylitis?
6. What is the complex treatment of overexertion diseases - myotendinosis?
7. What is the complex treatment of surges - vibration disease?
8. What is the complex treatment of overexertion diseases - vegetative polyneuropathy?

Topic 15

INFLAMMATORY AND DEGENERATIVE DISEASES OF THE MUSCULOSKELETAL SYSTEM

1. What are the possibilities of physical factors to influence the various forms of rheumatoid arthritis in adults.
2. What is the complex physical treatment of M. Bechterew.
3. Complex physical treatment for coxarthrosis.
4. Complex physical treatment for gonarthrosis
5. Complex physical treatment of arthritic changes in peripheral joints?
6. Rehabilitation of patients with alloplasty of the hip joint.
7. Rehabilitation of patients with alloplasty of the knee joint

MCQ's for selfpreparation

ELECTRICAL TESTING TEST

I. UNDERLINE THE CORRECT ANSWER

1. According to Gildemaster, low-frequency currents have a frequency of:

- a) up to 100 Hz b) up to 1000 Hz c) over 10000 Hz
2. In electrophoresis with / + / pole, the following electrolytes are introduced:
 a) Sol. Novocaine hydr. b) Sol. Potassium iodate c) Salt. Glucose d) Salt. Sodium phosphoric
3. The sinusoidally modeled currents are:
 a) amplitude modulated attenuation currents b) pulse galvanizing currents c) medium frequency modulated at low frequency.
4. El. stimulation of hypotrophic muscles is performed with:
 a) / + / pole b) / - / pole
5. High frequency currents:
 a) have anti-inflammatory action b) use electrical stimulation of denervated muscles c) generate exogenous heat
6. The magnetic field generated by the device Magnet-H-80 is:
 a) variable low-frequency 50 Hz b) constant c) variable high-frequency 433 Hz
7. The thixotropic effect is characteristic of:
 a) interference currents b) ultrasound c) HF currents

II. FILL IN

Galvanization, resp. electrophoresis is not performed in: (specify 3 cases)

List 4 of the parameters of the low-frequency currents:

3. Write the wavelength of microwave currents from the decimeter and centimeter range:
4. The protection of the generators of RF currents is done by:
5. Write some commonly used preparations for phonophoresis in adhesions:
6. Inhalation treatment is indicated in:
7. Which reformed physical factors are used in acupuncture:

KINESITHERAPY TEST

I. UNDERLINE THE CORRECT ANSWER

1. Passive types of kinesitherapy include:
 a) acupressure;
 b) PIR;
 c) underwater gymnastics;
 d) field treatment;
2. Manual-muscle testing is a methodology for:
 a) functional assessment of the cardiovascular system;
 b) assessment of muscle weakness;
 c) assessment of the volume of movement in the joints.
3. Suspension therapy is a method in which physical exercises are performed:

- a) against gravity;
- b) in case of eliminated gravity;
- c) against resistance

4. The cane shall be used as an aid by:

- a) the healthy party;
- b) the sick party;
- c) no matter.

5. Manual vertebrotherapy is a method of treating:

- a) disc herniation;
- b) spondylarthrosis;
- c) functional blockade of the intervertebral joints;

6. Indicate the meaning of the designation for the mobility of shoulder joint S: 50°-0-180°:

- a) adduction 50° and abduction 180°
- b) flexion 50° and extension 180°
- c) extension 50° and flexion 180°

7. "Joint play" is:

- a) movement of the joint along its anatomical axis;
- b) translational movement between the joint surfaces;
- c) rotational movement in the joints

II. FILL IN THE REQUIRED DATA:

1. List five rules for massage:

List the names of gymnastic exercises according to the type of muscle contraction:

3. The best stimulating effect on muscle trophism is achieved by the following kinesitherapeutic agents:

4. What kinesitherapeutic means and methods can be used to achieve muscle relaxation?

5. ADL testing aims to:

6. Give an example of appropriate combination of kinesitherapy procedures with others with physical factors:

7. List the basic principles of training:

8. Contraindications for active kinesitherapy:

TEST AND TESTING for LIGHT, WATER AND HEAT THERAPY

I. UNDERLINE THE CORRECT ANSWER

1. Infrared rays cause:

- a) photochemical processes in tissues;
- b) exogenous heat in the tissues;
- c) endogenous heat in the tissues.

The strongest influence on the skin pigmentation is exerted by UVL from:

- a) the long-wave spectrum;
- b) the mid-wave spectrum;
- c) the shortwave spectrum.

3. Ultraviolet rays have their effect on:

- a) the dermis;
- b) the hypodermis;
- c) the epidermis.

4. The heat capacity of paraffin is:

- a) larger than water;
- (b) less than that of water;
- c) identical to that of water.

5. The most valuable properties have:

- a) estuarine mud;
- b) peat mud
- c) the mineral mud.

6. Psammotherapy is:

- a) steam treatment;
- b) sand treatment;
- c) treatment with seaweed.

7. The emission of the helium-neon laser is in the spectrum of:

- a) UVL;
- b) the red visible light;
- c) ICL.

II. FILL IN THE REQUIRED DATA:

1 Describe the Gorbachev-Dalfeld method of biodosimetry

2. List 5 criteria influencing the individual sensitivity of the skin to UVL:

3. Types of schemes for subertemic irradiation:

4. Features of laser radiation:

5. Protective equipment for staff and patients when working with light sources are:

6. List the application methods in cryotherapy:

7. List 3 main factors in peloidotherapy:

8. Indications for "sauna" therapy