

**THEMATIC PLAN**  
**practical training on physical therapy and medical rehabilitation**  
**for students of the 5th course of medical faculty, faculty of foreign students**

**1. Fundamentals of physical therapy.** Definition of the concept "physical therapy". A role of domestic scientists in development of physical therapy, the Belarusian school of physiotherapists. The main directions of use of physical factors in medicine (medical, rehabilitation, preventive, diagnostic). Features of medical physical factors. Classification of means and methods of physical therapy. Principles of physical therapy. Modern ideas of mechanisms of physiological and medical action of natural and artificial physical factors, physical, physical and chemical and biological stages, their actions on a human body. Local, segmentary and general reactions of a human body at physiotherapeutic influences, their interrelation. A skin role in realization of action of physical factors. Neurophysiological and humoral aspects of the mechanism of action of physiotherapeutic procedures. Combination of physiotherapeutic factors. Safety regulations during the work with the physiotherapeutic equipment.

**2. Direct current and its treatment-and-prophylactic use. Pulse electrotherapy.** Physical and chemical bases and mechanisms of physiological and medical action of a direct current on a human body. Dosing of a direct current. Medicinal electrophoresis, bases and the most important features of a method. Methods and techniques of use of a medicinal electrophoresis. Pulse electrotherapy. Electrosleep. Diadynamotherapy. Amplipulsetherapy. Interference-therapy. Flyuktuorization. Transdermal electrostimulation. Electrodiagnostics and electrostimulation. Transcranial electrostimulation. Mechanism of physiological and medical action of a pulse electrotherapy, indication and contraindication. Curation of patients.

**3. High-frequency, ultrahigh-frequency and superhigh-frequency therapy. Mechanotherapy, aero ionotherapy.** General characteristic of methods of a high-frequency electrotherapy. Thermal and oscillatory components of action of high-frequency factors. Physical characteristic of high-frequency factors, mechanism of physiological and medical action, indication and contraindication. Mechanotherapy. Physical and biophysical bases of methods of ultrasonic therapy. Mechanism of physiological and medical action of ultrasound. Low-frequency ultrasound, advantages of low-frequency ultrasonic therapy. Indications and contraindications for ultrasonic therapy. The equipment for ultrasonic therapy, a technique of holding procedures, safety measures. Ultraphonophoresis of medicinal substances, mechanism of medical action, technique of holding procedures, indications and contraindications. Aero ionotherapy. A concept about aeroions and hydroaeroions. Features of action positive and negative aero - and hydroaeroions. Curation of patients.

**4. Phototherapy.** Physical and biophysical characteristic of light, a concept about a range of light radiations. Physiological and medical action of infrared and visible beams. Bioptron therapy. Physiological and medical effect of plane-polarized light. Ultraviolet rays. Physiological and medical action of ultraviolet rays with various wavelength (long, average and short-wave ultraviolet radiation). An ultra-violet erythema, its dynamics and a biological role, indications and contraindications to use. Laser therapy. Physical and biophysical characteristic of laser radiation. Mechanism of physiological and medical action of laser radiation. A concept about of laser acupuncture and laser radiation of blood, the indication and a contraindication. Curation of patients.

**5. Magnetotherapy. Water - mud-, a thermotherapy. Cryotherapy. Sanatorium treatment.** Magnetotherapy. Biophysical bases of magnetotherapy. Types of magnetic fields (constant, variable, running, pulse). Physiological and medical action of magnetic fields. Indications and contraindications to magnetotherapy. Water - mud-, a thermotherapy. Cryotherapy, physiological and medical action. Sanatorium treatment. Curation of patients.

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