

STATE ESTABLISHMENT 'DNIPROPETROVSK MEDICAL ACADEMY OF MINISTRY
OF HEALTH OF UKRAINE'
Chair of physical rehabilitation, sport medicine and valeologies

«Is confirmed»

At methodical meeting of physical
rehabilitation, sports medicine and
valeology chair
_____ (the chair name)

The head of the chair

_____ Nekhanevich O. B.
« ____ » _____ 20 p.

METHODICAL INSTRUCTIONS

TO STUDENTS OF IV course medical faculty

FOR INDEPENDENT WORK

BY PREPARATION FOR THE PRACTICAL TRAINING

MODULE № 1: PHYSICAL REHABILITATION, SPORT MEDICINE

Thematic module 1: Sport medicine

Theme № 1: Sport medicine. Complex medical inspection during physical exertion.

MODULE I. PHYSICAL REHABILITATION, SPORT MEDICINE

Thematic module 1: Sport medicine

Theme № 1: **Sport medicine. Complex medical inspection during physical exertion**

1. Theme urgency:

Health and functional state of organism depend on lifestyle and physical activity. That's why physical exercises are the important part of curation program. Despite, the optimal level of physical exertion only invokes good results. The right moving mood estimation is as important as choosing the right dose for medication. The complex medical inspection is necessary for correct selection of physical exercises and other means of physical culture with the purpose of health prophylactic and strengthening, physical performance development and maintenance of sports qualification.

2. Theme duration: 2 hours.

3. The educational aim: To find out what sport medicine and physical rehabilitation is. Their practical use and estimation methods.

Concrete aims:

To know:

- Theoretic basement of sport medicine and physical rehabilitation, its aims and methods.
- Medical control aims
- основні розділи комплексного лікарського обстеження осіб, що займаються фізичною культурою чи спортом;
- особливості збору анамнезу (загального і спортивного) та лікарського огляду органів і систем при вирішенні питань щодо допуску до занять фізичними вправами;
- фізіологічні критерії тренуваності;
- особливості заповнення медичної документації: лікарсько-контрольної карти фізкультурника (форма 061-о).

To be able:

- аналізувати дані загального і спортивного анамнезу;
- аналізувати дані лікарське обстеження органів і систем;
- інтерпретувати результати клінічних, лабораторних (аналізи крові та сечі) та інструментальних (ЕКГ, ФЛГ) методів дослідження;

To develop practical skills:

- general and sport anamnesis assembling;
- make physical examination including heart rate and blood pressure definition .
- work with special medical documents.

4. Basic knowledge, skills (interdisciplinary integration) – (table 4.1):

Table 4.1

The names of previous disciplines	Practical skills
Normal physiology	To be able to register main physiologic parameters, to know the normal results for different age.
Pathologic physiology	To define the development process of prepathologic and pathologic organic changes, non-adequate physical exertion impact
Propedeutics of internal disease	To take blood pressure, heart rate, describe pulsus. To be able to take electrocardiography. To evaluate the medical data.
Pediatric Propedeutics	To know the specifics of physical development in children according to different age.

5. Students advice.

5.1 Theoretic questions:

1. Modern understanding of sports medicine and physical rehabilitation.
2. Medical control during exercise.
3. Method comprehensive medical examination.
4. Identification and assessment of physical development.
5. Research and evaluation of the functional state of the body through functional tests.
6. Quantitative assessment of the level of physical health.
7. Medical opinion.
8. Access to physical training and sports, individual movement modes while health and athletic training.

5.2 Practical part:

1. Master the technique of comprehensive medical examination of persons engaged in physical culture and sports,
2. Decide on access to exercise and to select the most optimal form;
3. Conduct somatoscopy and somatometry, based on the analysis of the data to assess the physical development of recommendations for its correction in the training and improving processes;

5.4. Theme content:

The motor activity is the major condition of life and normal functioning of the man, which has not only biological, but also social importance. Therefore, definition of an optimum doze of physical loads not only the competence of sports doctors, but also has the direct relation to the doctors almost of all specialities. Is not present of the unit of clinical medicine, in which there would be no questions connected with the motor modes, and also, with the usage of physical exercises as means of preventive maintenance and improvement, treatment and restoration.

The sports medicine is a clinical discipline, which studies positive and negative influence of physical loads of different intensity (from hypo- up to hyperdinamy) on the body of a healthy and sick person.

The purpose: optimisation of motor activity of the man for improvement and strengthening of health, increase of a functional condition level, growth of sports achievement, and also preventive maintenance and treatment of diseases.

The main tasks of the sports medicine: 1) the definition of a condition and level of health, and also conformity of physical loads to functionalities of a body at different stages improving or sports training; 2) duly qualified medical aid in case of infringement of health, which are connected with occupations by sports or physical culture; 3) participation in the training process management; 4) sanitary - hygienic and medical maintenance of training process; 5) realisation of the rehabilitation of the persons, who are engaged in physical culture and sports, after diseases and injuries.

Physical rehabilitation is a part of medical and social rehabilitation. One of the most impotent mean of physical rehabilitation is the medical physical culture - method of treatment, which uses means of physical culture for restoration of health and work capacity of the patient. It's method of active, functional, pathogenetic and training therapy.

The method of medical physical culture facilitates and accelerates processes of rehabilitation of physiological functions of the patient, causes increase of functional reserves and functional adaptation to household and professional loads.

Physical examination in sports medicine.

The complex medical inspection is necessary for correct selection of physical exercises and other means of physical culture with the purpose of health

prophylactic and strengthening, physical performance development and maintenance of sports qualification.

The medical examination has several components:

- Common and sports anamnesis;
- Somatoscopy;
- Anthropometry
- Estimation of physical development;
- Investigation of organs and systems under the standard circuit of medical survey, including the laboratory tests (common urinalysis, common analysis of blood) and tool (ECG, X-ray) inspection;
- Investigation of functional state (functional tests);
- Estimation of health condition.

Common and sports anamnesis:

«Bene diagnoscitur bene curatur»

The carefully assembled anamnesis: the passport information, history of life, sports anamnesis are have the important meaning for a correct preliminary estimation of health condition, physical development and physical performance.

Common anamnesis: collect the same as and at any other medical inspection. Usually find out features of development, life, including housing conditions the harmful habits (special attention pay to the alcohol and smoking use), image of life (mobility), character and periodicity of a meal. Important to ask on a trade, character of work, transferred diseases, traumas, operations.

The special attention is necessary to pay on infectious diseases: rheumatic fever, diphtheria, scarlet, often quinsy etc.). The presence them in anamnesis will require more careful inspection of heart.

It is necessary to find out presence in the past of diseases: tuberculosis, hepatitis, diabetes, various other infections; family anamnesis (congenital disease), disease and infringement in health condition for last months and weeks previous to inspection.

Sports anamnesis includes: did patient occupied with physical culture or sports, it was long, which kind of sport. Does patient occupied with tough, morning hygienic gymnastics. It is important also to find out a degree physical performance. The representation about it can be given with information on participation in competitions, scale of these competitions (inside an educational institution or enterprise, urban, regional etc.). It is necessary to ask, whether has the surveyed sports category (youthful, adult), of what degree, on what kind of sports, when is received to find out character and periodicity of trainings.

5.1 Self-control materials:

- 1) *self-control questions*

1. Definition of Sports Medicine as a clinical discipline, its main aim, objectives and values in modern medical practice.
2. Current issues of optimizing human motor activity at the present stage, the types of physical activity and their effects on the body.
3. The concept of medical (drug) control during exercise, its main task.
4. Method comprehensive medical examination athletes and sportsmen, types of medical examinations.
5. The main sections of complex medical examination, especially collecting history (general and sports) and medical examination of organs and systems, physiological characteristics of the circulatory system in trained individuals.

2) Tests:

1. Sports medicine is a science which studies:
 - A. Influence of going in for sports on a sportsman's body,
 - B. Positive and negative influence of exercise stress with different intensity on a body of a healthy and ill person,
 - C. Influence of going in for physical education on a human body,
 - D. Influence of hypodynamia on a healthy human body,
 - E. Influence of hyperdynamia on a healthy human body.

2. The main purpose of sports medicine is:
 - A. Optimization of human locomotor activity for health saving and health promotion,
 - B. Optimization of regime of work and rest.
 - C. Proper organization of trainings and competitions,
 - D. Prophylactic medical examination of population,
 - E. Improve of sportsmen's performance capability.

3. Main tasks of medical supervision are:
 - A. Study of processes of adaptation to exercise stress,
 - B. Estimation of conditions for carrying out trainings and competitions,
 - C. Estimation of fatigue level while the sporting activity,
 - D. Study of psycho-physiological condition during the process of trainings and competitions,
 - E. Estimation of physical development, functional abilities and health conditions in people, who go in for different types of bodily exercises

literature:

1. Remedial gymnastics and sport medicine: textbook/ Klapchuk V.V., Dsiak G.V., Mutavov V.I.; red. Klapchuk V.V., Dsiak G.V. – K.: Zdorov'e, 1995. – 312 p.
2. Remedial gymnastics and sport medicine: Tests for knowlage control in students of medical and stomatological faculties of universitie IV level of acreditation / Abramov B.B., Klapchuk B.B., Magl'ovanuy A.V., Smirnova O.L.,; red. Ph. Klapchuk V.V., Ph. Magl'ovanuy A.V. – Dnipropetrovsk: medical academy, 2006. – 124 p.
3. Remedial gymnastics and sport medicine (Lectiions) / Abramov B.B., Klapchuk V.V Smirnova O.L.,; red. Ph. Klapchuk V.V.,– Dnipropetrovsk: medical academy, 2006. – 179 p
4. Medical control in physical training and sports: medical recommendations for students of medical and stomatological faculties of universitie IV level of acreditation / V.S. Sokolovskyy, N.A. Romanova, V.S. Vladova, I.I. Bondarev. – Odessa: osmu, 2001. – 93p.
5. Sport medicine. textbook / Makarova G.A. – M.: Soviet sport, 2003. – 480 p.

6. Textbook «Remedial gymnastics and medical control» red. Epifanova and G. L. Apanasenko – p.14-16, 25-37.
7. Functional tests in sport medicine (methodical recommendations) /Mychaluk E. L. –Kyiv. –2005. – 37p.

Discussed on chair meeting «____»_____20__p. (Protocol № ____)

The head of the chair, Phd. _____ O.B.Nekhanevich

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