

INTERNATIONAL HIGHER SCHOOL OF MEDICINE

Internal Medicine Department

SYLLABUS MEDICAL CONTROL 2024-2025 academic year For students of medical faculty 5 course 9 semester

0,8 credits (36 h, including auditorial 18, independent work 18 h)

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The Syllabus is considered
at the meeting of the department of internal medicine
Protocol № 2 dated 26.08.2024
Head of the department prof. Kudaibergenova N.T.



Organizing specifications to students: Lectures are in lecture room № 1 room The National Center of Oncology. Corpus of ISM by timetable.

Pre-requisites. To successful study this course, student shall know: the medical researches for define of influence of regular training on an organism of the healthy person engaged physical trainings and for definition of a functional condition of the patient after diseases, indications, contraindications for regular training, assessment conditions of

Post-requisites. Family medicine.

Course studies: definition, development history, parts of the medical control. Somatoscopy. Anthopometry. Investigations of cardiorespiratory, neurology, gastroenterology, urogenital system. Sports traumas, injuires, diseases. Indications and contraindications to continue of physical trainings, to competitions. Criteria of readiness after diseases and traumas.

Rating (100 maximal score): attendance – 20; class activity- 20; individual work - 20; module - 40. All kind of classes - full attendance.

Reduction of progress rating:

- * Absence of lectures on 2 scores of class activity.
- * Missed lesson is checked as 2 marks of attendance for 2 hours irrespective of reason.
- * Being late to class reduces on 1 score of attendance for every case.

Request to appearance: clean accurate doctor's smock (apron), shoe covers, mask, and stethoscope. Student with inappropriate appearance not admit to lesson.

Requirements for the implementation of the abstract:

- * Given by electronic and printed form 2 slide on page and short notes,
- * Typed in Times New Roman 12, 1.5 interval / escape much text in slide in ppt.
- * The first page / slide should contain the full name of the student, group, semester, the name of the abstract, the data of teacher, the filing date of the abstract.
- * Contain parts: introduction, main part, findings / conclusions, list of references, resource.
- * The total essay 6 - 7 pages.

COURSE CONTENT:

Goal of course: To teach the students to spend medical examination of persons for definition of indications and contra-indications for physical trainings, to estimate functional reserves of an organism before the beginning of regular physical trainings independently, to carry out the control over a condition going in for sports and to study influences of employment on an organism. To teach to distinguish, diagnosis, treatment, render first aid and to prevention of diseases and the pathological conditions arising at playing sports.

To taking module medical control student must have:

A. Lectures and self-working notes and >80% of attendance on classes

B. Positive marks of class activity (>24)

Assignments for Working off missed class are mandatory (max – 20 for class activity only, an excused absence is still an absence): prepare the abstract or Power Point presentation on the topic of missed classes and answer.

At the end of the course students must:

know

1. Definition of the medical control, somatoscopy, anthropometry.
2. Calculation of anthropometrical indexes.
3. Definition of functional reserves of an organism, cardiovascular and respiratory system.
4. Definition of a condition of nervous-muscular system, gastroenterology, urogenital systems.
5. Criteria of selection of persons for employment by physical training and sports.
6. Indications and contra-indications to employment on physical training and sports.
7. The basic clinical features of the pathological conditions arising at employment by physical training and sports.
8. Criteria of diagnosis and differential diagnosis of the pathological conditions arising at employment by physical training and sports.
7. Basic principles of rendering of the first aid and emergency therapy at sports traumas and the pathological conditions arising at employment by physical training and sports.
8. The prognosis and prevention of a sports traumas.
9. Sports propagation.

be able

1. To estimate the general physical development of an individual, somatoscopy, define anthropometrical indicators.

2. To investigate a functional condition of cardiovascular system with definition of pulse, arterial pressure, reaction of cardiovascular system to physical activity with calculation of haemodynamic indicators.
3. To investigate function of respiratory system with definition of breathing rate, vital capacity of lungs, bronchial passableness, to spend functional tests.
4. To investigate a functional condition of nervous system - neurologic anamnesis, to investigate craniocerebral nerves, to define a condition of reflexes, coordination functions of nervous system according to special tests, to investigate a condition of analyzers, a tone of muscles, intellectual working capacity, function of vegetative nervous system.
5. To spend functional tests.
6. To define level of physical working capacity.
7. To spend medical-pedagogical supervision.
9. To render first aid at sports damages.

Thematic plan of lectures

№	Lecture	Hours
1.	Medical control. Introduction	3
2.	Investigations of cardiovascular system	2
3.	Investigations of respiratory system	2
4.	Investigations of nervous and gastrointestinal system	3
5.	Investigations of urogenital system	2
6.	Pathological condition in sport	3
7.	Sport injuries. Investigations of women, children in sport	3
	Total	18

COURSE CONTENT

The medical control. Definition. Development history. Parts of the medical control. Types of medical research at carrying out of the medical control. Somatoscopy: a bearing, a condition of the locomotor system, type of constitution, pathological changes of the locomotor system, fill in check card after somatoscopy.

Anthropometry. The basic and additional indicators: definition of a parity of active and passive tissues of a body (lean weight, the general count of fat). Definition proportionality factors, anthropometrical points, weights of a body, muscular force, the estimated indexes applied at mass inspections, drawing up of the anthropometrical report.

Investigations of cardiovascular system. Complaints of patients for definition of presence of a cardiovascular pathology, the differential diagnosis of symptoms. The instrumental and laboratory conclusions. An estimation of a functional condition of cardiovascular system and definition of reserves of an organism on physical activity.

Investigations of function of respiratory system. Complaints of patients for definition of presence of pathology of respiratory system, the differential diagnosis of symptoms. The instrumental and laboratory conclusions. An estimation of a functional condition of respiratory system on physical activity.

Research of function of nervous system. Complaints of patients for definition of presence of a pathology of nervous system, the differential diagnosis of symptoms. Syncope, classification. The instrumental and laboratory conclusions. Research of craniocerebral nerves. An estimation of a functional condition of nervous system on physical activity.

Research of function gastroenterology and urogenital system. Complaints of patients for definition of presence of a pathology gastroenterology and urogenital system, the differential diagnosis of symptoms. The instrumental and laboratory conclusions.

Diseases and the pathological conditions arising at employment by physical training. Sports traumas. Kinds of sports damages, traumas. Classification. Clinical features and treatment. Overuse and overfatigue. Measures of their preventive maintenance. Indications and contraindications to surgical treatment. Contraindications to continue of physical trainings, to competitions. Criteria of readiness after diseases and traumas.

The medical control over children, teenagers, young men, girls, women. The characteristic of medical groups and principles of distribution to medical groups. Character of employment by physical training in groups. Features of the medical control in risk groups.

Structure of individual and group assignments in course “Medical control”.

* Study with literature – 18 h

* Tasks to perform – 24 h

* Total – 42 h

Tasks for independent work:

Student must choose and prepare a presentation on one of the following topics:

Functional condition of cardiovascular system

Functional condition of respiratory system

Functional test for condition of nervous system:

Functional tests in sport

Render first aid at sports damages.

Prevention of sport traumas.

Concussions.

Altitude sickness. Caisson disease.

Heat stroke. Drowning.

Sport injuries. Bone fractures.

Obligatory literature:

Guidelines for medical control. 2010. - 90 c.

Macarova G. Sport medicine, 2002.

Ehrampoush E1, Arasteh P2, Homayounfar R3, et al. New anthropometric indices or old ones: Which is the better predictor of body fat? *Diabetes Metab Syndr*. 2016 Aug 23. pii: S1871-4021(16)30201-6. doi:

Cerny FJ, Patton DC, Whieldon TJ, Roehrig S. An organizational model of sports medicine facilities in the United States. *J Orthop Sports Phys Ther*. 1992;15(2):80-6.

Zhang Z1,2, Wang B3, Wu H3, et al. Effects of slow and regular breathing exercise on cardiopulmonary coupling and blood pressure. *Med Biol Eng Comput*. 2016 May 18.

Barber NJ1, Ako EO, Kowalik GT. MR augmented cardiopulmonary exercise testing-a novel approach to assessing cardiovascular function. *Physiol Meas*. 2015 May;36(5):N85-94.

Chamari K1, Padulo J2,3. Aerobic' and 'Anaerobic' terms used in exercise physiology: a critical terminology reflection. *Sports Med Open*. 2015 Dec;1(1):9. Epub 2015 Mar 27.

Baby Boomer Sports Injuries, U.S. Consumer Product Safety Commission, April 2000.

Edouard P¹, Branco P², Alonso JM³. Muscle injuries and hamstring muscle injuries during the international athletics championships between 2007 and 2015. Ann Phys Rehabil Med. 2016 Sep;59S:e22.

Moreira CA¹, Bilezikian JP². Stress fractures: concepts and therapeutics. J Clin Endocrinol Metab. 2016 Oct 12;jc20162720.

Porter T¹, Rushton A². The efficacy of exercise in preventing injury in adult male football: a systematic review of randomised controlled trials. Sports Med Open. 2015 Dec;1(1):4. Epub 2015 Jan 20.

Gregorio-Arenas E¹, Ruiz-Cabello P², Camiletti-Moirón D³, et al. The associations between physical fitness and cardiometabolic risk and body-size phenotypes in perimenopausal women. Maturitas. 2016 Oct;92:162-7. doi: 10.1016/j.maturitas.2016.08.008. Epub 2016 Aug 13.

Aparicio VA^{1,2}, Ruiz-Cabello P¹, Borges-Cosic M³, et al. Association of physical fitness, body composition, cardiometabolic markers and adherence to the Mediterranean diet with bone mineral density in perimenopausal women. The FLAMENCO project. J Sports Sci. 2016 Jun 16:1-8.

Babcock L1, Olsen CS, Jaffe DM, et al. Cervical Spine Injuries in Children Associated With Sports and Recreational Activities. Cervical Spine Study Group for the Pediatric Emergency Care Applied Research Network (PECARN). Pediatr Emerg Care. 2016 Sep 30.