

Ministry of Health of the Republic of Belarus
Education Establishment
"Gomel State Medical University"
Normal Physiology Department

It was discussed at the department meeting 30.08.16
The protocol № 8

METHODICAL INSTRUCTION

for carrying out classes by teachers with the 2nd course students
of Faculty for training specialists for foreign countries (teaching in English)
on normal physiology

Topic: Attestation of students on learning of main clinical-physiological methods

The general time of the class – 4 hours

**1. THE STUDYING AND EDUCATIONAL PURPOSES, THE MOTIVATION FOR
ASSIMILATION OF THE SUBJECT, REQUIREMENTS TO THE INITIAL LEVEL OF
KNOWLEDGE**

Purposes of the class

To create at students integrated idea of patterns of functioning of an organism of the healthy person, his separate systems and organs, mechanisms of regulation of their functions and methods of their research.

Tasks of the class

Check of level of knowledge of students of the subjects "Blood physiology", "Physiology of excitable tissues", "Central nervous system", "Endocrine system", "Respiration physiology", "Physiology of cardiovascular system", "Digestion physiology", "Metabolism and energies", "Thermoregulation", "Excretion physiology", "Physiology of sensory systems", "Physiology of higher nervous activity".

Evaluation of learning of main constants on normal physiology

Preexamination computer testing

Evaluation of learning of main clinical-physiological methods.

As a result of carrying out the class the student has to:

To know:

– patterns of functioning of an integrated organism of the healthy person, his separate systems and organs and mechanisms of their regulation considered from positions of the general physiology, private physiology and integrative behavioural activity of the person;

– essence of the main clinical-physiological techniques of a research of various functions of a healthy organism which are widely used in applied medicine.

To be able:

1) To explain the information value of various indicators (constants) and mechanisms of a regulation of activity of cells, tissues, organs, systems of an organism.

2) To own the main clinical-physiological techniques at the level of ability:

– technology of capture of capillary blood;

– definition of hematocrit;

– hemoglobin definition;

– calculation of quantity of erythrocytes;

- definition of color parameter;
- calculation of quantity of leucocytes
- definition of blood group (ABO system)
- definition blood rhesus of blood
- dynamometry
- research of reflex reactions of the person
- definition of state and reactivity of the autonomic nervous system by a cardiointervalography method
- definition of properties of pulse by palpation method
- determination of arterial blood pressure by Korotkov's method
- general analysis of an electrocardiogram of the healthy person
- spirometry
- spirometry
- calculation of due sizes of basal metabolism
- definition of visual acuity by means of tables
- definition of fields of vision by perimetry method
- definition of HNA type

2. CONTROL QUESTIONS ON THE CLASS SUBJECT:

- 1 Technology of blood sampling from a finger.
2. Definition of hematocrit.
3. Determination of quantity of hemoglobin by Sali's method.
4. Calculation of quantity of erythrocytes.
5. Calculation of color parameter.
6. Calculation of quantity of leucocytes.
7. Definition of blood group (ABO system)
8. Definition blood rhesus of blood
9. Pulse rate definition.
10. Determination of arterial pressure.
11. Technique of record of an electrocardiogram.
12. Spirometry. Determination of the vital capacity of lungs (VCL).
13. Spirometry (definition of the main indicators of external respiration).
14. Calculation of due sizes of basal metabolism
15. Dynamometry.
16. Visual acuity definition
17. Perimetry.
18. Research of reflex reactions of the person.
19. Definition of an initial vegetative tonus and vegetative reactivity by a cardiointervalography method.
20. Definition of HNA type.

3. THE COURSE OF THE CLASS

- *Introduction:* The teacher answers questions of students which caused certain difficulties in the course of mastering of educational material.
- *Evaluation of knowledge of main constants on normal physiology*
- *Preexamination computer testing* on the "Blood physiology", "Physiology of excitable tissues", "Central nervous system", "Endocrine system", "Respiration physiology", "Physiology of cardiovascular system", "Digestion physiology", "Metabolism and energies", "Thermoregulation", "Excretion physiology", "Physiology of sensory systems", "Physiology of higher nervous activity".
- *Evaluation of learning of main clinical-physiological methods.*
- *Conclusion of the teacher:* At the end of the class the teacher becomes the conclusion about the carried-out work and sums up the class results.

Note: time of breaks of 15 minutes during the class.

LITERATURE

Basic

1. Human physiology: textbook for overseas students = Физиология человека: учеб. пособие для иностранных студентов, обучающихся на английском языке / А. И. Киеня [и др.]; под ред. проф. Э. С. Питкевича; пер. на англ. яз. Р. А. Карпов, В. А. Мельник. — Гомель: УО ГоГМУ, 2009. — 352 с.
2. Text of lectures.

Alternate

1. Textbook of medical physiology // C. Guyton, 2006. — 1116 p.
2. Human anatomy and physiology // Alexander P., Spence-Elliott B. Masson.
3. Human physiology. The mechanisms of body function // Arthur J. Vander James H Sherman Dorothy S. Luciano, 1986. — 715 p.
4. Lecture notes on human physiology // John J Bray, Patricia A. Cragg, Anthony D.C. Macknight, Roland G. Mills and Douglass W. Taylor.
5. Human anatomy and physiology // Elaine N. Marieb, 1989. — 995 p.
6. Review of medical Physiology, International edition, 2003. — 912 p.