

Methods of studying the cardiovascular system in students of a sports university in the process of recreational rest

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Abstract

Background and Study Aim The aim of the study is to develop a methodology for examining the cardiovascular system in students with different levels of physical activity.

Material and Methods Students of the Academy of Physical Culture (Kharkiv, Ukraine) took part in the study: 3-4 year full-time and part-time students. A scheme for examining the cardiovascular system in this category of students has been drawn up. A survey was conducted during practical exercises on physical recreation during the years 2006 – 2011. The research methods were taken as the basis: circulatory organs; patients with diseases of the cardiovascular system; circulatory systems.

Results The definitions of recreation are considered. Its types and functions are shown. Directions for assessing the level of the functional state of the cardiovascular system in students with a high level of physical activity are given. A plan-scheme for studying this system has been drawn up. The peculiarity of the system is to take into account the specifics of the future profession. Assessment of the functional state of the student's cardiovascular system is carried out in a complex manner.

Conclusions It is necessary to take into account the anamnesis of the entire life of the student. It is necessary to apply sports, clinical, instrumental, laboratory, biochemical research methods. The results of functional trials and tests should be taken into account. Functional tests and tests should reflect the response of the cardiovascular system to the physical load and determine the overall physical performance

Keywords: student, functional state, research methods, functional test, test.

Introduction

Recreation is an active and a passive recreation outside of industrial, scientific and other activities. Recreation is aimed at the formation, restoration, strengthening and preservation of human health. An important element of recreation is to obtain satisfaction and pleasure. Passive and active rest can be short-term (with a return for the night to the places of permanent residence) and long-term (with an overnight stay outside the place of permanent residence). This holiday provides for three main functions: biomedical, socio-cultural and economic. Active recreation of a person involves the use of physical culture and its forms and methods of training.

The study of the cardiovascular system is one of the central places in sports medicine [1]. This is due to the fact that the functional state of the circulatory apparatus plays an important role in the body's adaptability to physical stress. It is also one of the main indicators of the functional state of the athlete's body. It is known that the heart of an athlete functions more productively than the heart

of an untrained person [1]. This is evidenced by the studies of scientists, teachers and doctors [2, 3, 4, 5, 6]. Also confirmed by our data [7, 8, 9, 10].

There are many studies of the functional state of the cardiovascular system in student athletes. In this context, the methodological approach in the process of studying this system is especially important. But there are very few such studies, and this problem needs to be studied and improved [4, 11].

Therefore, the purpose of the study: to develop a methodology for examining the cardiovascular system in students with different levels of physical activity.

Materials and methods

Participants

Students of the Academy of Physical Culture (Kharkiv, Ukraine): 3-4 course full-time and part-time departments.

Study design

A scheme for examining the cardiovascular system in this category of students has been drawn up.

A survey was conducted during practical classes

on physical recreation during 2006 - 2011. The research methods were taken as the basis: the circulatory organs by Shkliar [12]; patients with diseases of the cardiovascular system by Shelogurov [13]; circulatory system by Vasilenko [14] and others [15, 16]. We also used our own many years of practical experience in the clinic and sports [17, 18, 19]. Modern research methods in sports were taken into account [20, 21, 22, 23, 24]. When examining students, they followed the research methods used in medical practice. Our many years of practical experience in sports was also taken into account.

Results

Students with various kinds of cardiac disorders may not complain of the disease for a long time [14]. They can also remain able-bodied due to the action of a number of regulatory mechanisms. These mechanisms determine the state of compensation.

During a general examination of a sick student, a number of very important diagnostic data are obtained. This examination allows you to: detect the heart hump; determine the properties of the heart impulse; to identify various kinds of pulsations.

A general examination of a student-athlete may provide an opportunity to identify a number of signs that are important for assessing his condition and diagnosis. Inspection should begin with: the position that he occupies; determination of the color of the skin and mucous membranes; detection of edema; examination of the heart, peripheral vessels and limbs.

Also, a student-athlete undergoes functional tests and tests. Unfortunately, they are not studied in medical universities and are almost never used in medical practice. In the universities of physical culture in the discipline "Sports Medicine" special attention is paid to functional tests and tests [8, 9, 11, 15, 16, 25]. Functional trials and tests are often used by coaches in their sports practice.

In the process of conducting practical classes, an important point is: the development of thinking among students; independent observation-research; analysis of the results and preparation of the study protocol. Students check and refine the sample methodology, analyze its information content. An independently completed task is also important because it allows you to determine the level of student preparation. This approach contributes to the education of the student's sense of personal responsibility, introduces him to the educational and research work.

Discussion

One of the important problems of sports medicine is to determine the functional state of the body of a student-athlete. For this, clinical and additional research methods are used. They are performed at

rest, during physical exertion, after exposure and at different stages of recovery.

Such approaches make it possible to determine the readiness of an athlete to achieve high sports results [25]. When conducting functional tests and tests, physical activity is most often used. As physical activity, running, jumping, squatting, step-test, running, cycling and others are recommended. Along with physical loads, loads of a different nature were used. Among them, there are four groups: Physical activity; Respiratory stress; Pharmacological loads; Alimentary or food loads. The accuracy of the results of functional trials and tests depends largely on various conditions, circumstances and situations. Therefore, they must meet certain standard requirements. Tests must be stable, objective and valid (informative). For practice, tests are also used that have a rating scale or standards. When performing the test, one should adhere to the accuracy of the implementation of the research methodology.

In medical practice, it is customary to examine and examine a person from the respiratory system. Then an examination of the cardiovascular system is carried out. Then the rest of the body systems are examined [12, 13, 14]. However, in sports practice, we have broken this routine and start with the study of the cardiovascular system. We proceeded from the fact that two indicators are important in sports practice: heart rate and blood pressure. In addition, they are also easy to identify in any situation. In accordance with this approach, a survey scheme is drawn up.

Conclusions

The plan-scheme for studying the functional state of the cardiovascular system in student athletes makes it possible to determine the state of their health and fitness. The plan-scheme used in medical practice should be taken as a basis. At the same time, it is necessary to take into account the specifics of the educational process: study; educational and training sessions; participation in sports competitions.

To determine the functional state of the cardiovascular system, the student must know and master (if possible) research methods. Also evaluate the results obtained in the complex:

- clinical (questioning, examination, palpation, percussion, auscultation) and anthropometric indicators;
- instrumental (according to the records of physicians specialists in functional studies);
- clinical-laboratory and biochemical (according to the records of a doctor or biochemist);
- functional trials and tests.

When choosing methods for assessing the functional state of the cardiovascular system, one should proceed from the following: a functional

test or test should evaluate the response of the cardiovascular system to physical activity and overall physical performance.

To clarify the functional state of the cardiovascular system, you can use pedagogical and psychological tests or tests of a different orientation.

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