ADAPTATION OF THE BODY OF DENTIST STUDENTS TO PHYSICAL ACTIVITIES

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It is well known that physical activity has a direct impact on the functional state of the human body. During physical exercise, the body needs to optimize itself to a new state. The definition of optimization to physical activity is that the body not only adapts to the size of the weight lifted, high or slow speed, but also adapts to changes in functions, biochemical processes and the humoral reactions they cause.

In addition, the psychological and emotional background of competitive activity changes.

A characteristic feature of adaptive functional systems is their flexibility and lability to achieve the same results in various conditions of the external and internal environment.

The functions of these systems are performed with maximum conservation of human resources. The relevance of studying the adaptation of the body to physical activity is beyond doubt, since physical education and sports are becoming the norm of life and an indispensable attribute of personal success for many citizens of our country. The purpose of this work was to study the processes of adaptation of the body to physical activity.

Under the influence of properly organized physical exercises, the plastic process is enhanced, which leads to accelerated formation of bone tissue during human growth. This process is most clearly manifested in childhood. In addition, moderate physical activity lasting 1.5-2.0 hours can cause an increase in the level of growth hormone in the blood by 3 times. And the higher the level of somatotropin, the more intense the growth of a person.

It is noted that systematic physical activity has a positive effect on the functional state of the respiratory system.

The strength and endurance of the respiratory muscles increases, the size of the lungs and the depth of breathing increase with a simultaneous decrease in the frequency of respiratory movements, which significantly improves the processes of gas exchange in the lungs and more fully meets the body's need for oxygen. In addition, it is noted that sports training increases the body's resistance to low temperatures, preventing the development of diseases of the respiratory system. Physiological changes in the respiratory system also manifest themselves in the form of an increase in the oxygen utilization coefficient and an increase in the ability of the respiratory center to maintain excitation at the maximum level for a long time. The oxygen capacity of the blood and the ability of skeletal muscles to use oxygen from the blood increase, due to which conditions are created for reducing pulmonary ventilation, both at rest and during physical exertion. Regular physical exercise contributes to an increase in the number of alveoli by 15-20%, which creates a significant anatomical and functional reserve of breathing. Some authors note that cyclic physical exercise leads to an increase in the volume-velocity indicators of the respiratory system. Thus, in the studies of N.G. Varlamova, it was found that people involved in cross-country skiing have higher airway patency in different areas than people who do not engage in sports. The cardiovascular system plays a leading role in ensuring the body’s adaptation to physical activity, thereby limiting the development of the body’s adaptive response. Systematic physical exercise promotes intensive development of the heart and improves its function. Many morphological rearrangements occur in the myocardium, that is, the synthesis of contractile protein increases, the number of mitochondria increases and the concentration of myoglobin in the capillary network increases in proportion to the increase in heart mass.

All this leads to moderate hypertrophy of the myocardium and an increase in its cavity, so cardiac output increases and the pulse rate decreases.

These morphological and functional rearrangements provide cardiac economy and adapt the cardiovascular system to various muscle loads. It is common for people who exercise regularly to experience sinus bradycardia at rest, which is characterized by a low heart rate. Most often, a slowdown in the heart rate occurs in people who regularly engage in cyclic exercises to develop endurance. A decrease in heart rate in an athlete is a manifestation of the influence of the vagus nerve on the sinus node and is considered a more efficient and economical circulatory system. This is due to the fact that filling in the ventricles is created during prolonged diastole and the metabolic process of the myocardium is completely restored after the previous contraction. One of the main manifestations as a result of a decrease in heart rate at rest is considered to be a decrease in myocardial oxygen demand. At the initial stage of training, the stroke volume of blood tends to increase its values, and as the sports experience increases, its values stabilize, which contributes to a decrease in the minute volume of blood at rest. In addition to the positive effect on the health of the person involved, physical activity can have a negative effect on the functional state and cause various diseases and injuries. This occurs as a result of the discrepancy between the load performed and the functional capabilities of the body.

Excessive load can cause inhibition of plastic processes and delay in growth and development of the body. Intensive physical activity for a long time, especially in combination with unfavorable environmental conditions, can cause and maintain inflammatory changes in the respiratory tract. Thus, I.M Vuljanko, D. Plavec note that people engaged in open space environments are exposed to cold air, which can contribute to an increased risk of dysfunction of the respiratory system. Adaptation to physical activity is manifested in the form of changes in the functional state of the human body. Basically, these manifestations are positive, however, if the load does not match the functional capabilities, they can have a negative impact on the functional state and cause various diseases and injuries.

REFERENCES

1. Saodat, A., Vohid, A., Ravshan, N., & Shamshod, A. (2020). MRI study in patients with idiopathic cokearthrosis of the hip joint. *International Journal of Psychosocial Rehabilitation*, *24*(2), 410-415.
2. Axmedov, S. J. (2023). EFFECTS OF THE DRUG MILDRONATE. *Innovative Development in Educational Activities*, *2*(20), 40-59.
3. Jamshidovich, A. S. (2023). ASCORBIC ACID: ITS ROLE IN IMMUNE SYSTEM, CHRONIC INFLAMMATION DISEASES AND ON THE ANTIOXIDANT EFFECTS. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *3*(11), 57-60.
4. Jamshidovich, A. S. (2023). THE ROLE OF THIOTRIAZOLINE IN THE ORGANISM. *Ta'lim innovatsiyasi va integratsiyasi*, *9*(5), 152-155.
5. Jamshidovich, A. S. (2023). HEPTRAL IS USED IN LIVER DISEASES. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *35*(3), 76-78.
6. Jamshidovich, A. S. (2023). EFFECT OF TIVORTIN ON CARDIOMYOCYTE CELLS AND ITS ROLE IN MYOCARDIAL INFARCTION. *Gospodarka i Innowacje.*, *42*, 255-257.

7. Jamshidovich, A. S. (2024). NEUROPROTECTIVE EFFECT OF CITICOLINE. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(1), 1-4.
8. Jamshidovich, A. S. (2024). THE ROLE OF TRIMETAZIDINE IN ISCHEMIC CARDIOMYOPATHY. *Journal of new century innovations*, *44*(2), 3-8.
9. Jamshidovich, A. S. (2024). ВСЕ ЭФФЕКТЫ ПРЕПАРАТА ИМУДОН. *TADQIQOTLAR*, *31*(2), 39-43.
10. Jamshidovich, A. S. (2024). SPECIFIC FEATURES OF THE EFFECT OF THE HEPARIN DRUG. *TADQIQOTLAR*, *31*(2), 34-38.
11. Jamshidovich, A. S. (2024). USE OF GLUCOCORTICOSTEROIDS IN PEDIATRIC PRACTICE. *TADQIQOTLAR*, *31*(2), 29-33.
12. Jamshidovich, A. S. (2024). РОЛЬ ИНТЕЛЛАНОВОГО СИРОПА И ЦИАНОКОБАЛАМИНА В УЛУЧШЕНИИ ПАМЯТИ. *TADQIQOTLAR*, *31*(2), 44-48.
13. Jamshidovich, A. S. (2024). TREATMENT OF POLYNEUROPATHY WITH BERLITHION. *Ta'limning zamonaviy transformatsiyasi*, *4*(1), 201-209.
14. Jamshidovich, A. S. (2024). USE OF ASCORIL IN BRONCHIAL ASTHMA. *Ta'limning zamonaviy transformatsiyasi*, *4*(1), 191-200.
15. Jamshidovich, A. S. (2024). THE IMPORTANCE OF THE DRUG ARTOXAN. *Ta'limning zamonaviy transformatsiyasi*, *4*(1), 182-190.
16. Jamshidovich, A. S. (2024). THE ROLE OF RENGALIN IN CHRONIC BRONCHITIS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(4), 116-123.
17. Jamshidovich, A. S. (2024). THE ROLE OF ALMAGEL DRUG IN GASTRIC AND DUODENAL WOUND DISEASE. *Ta'limning zamonaviy transformatsiyasi*, *4*(1), 173-181.
18. Jamshidovich, A. S. (2024). THE ROLE OF CODELAK BRONCHO SYRUP IN CHILDREN'S PRACTICE. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(4), 109-115.
19. Jamshidovich, A. S. (2024). THE AEVIT DRUG EFFECT. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(4), 124-132.
20. Jamshidovich, A. S. (2024). THE IMPORTANCE OF ALCHEBA DRUG IN POST-STROKE APHASIA. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(4), 132-138.
21. Jamshidovich, A. S. (2024). THE ROLE OF HYALURON CHONDRO DRUG IN OSTEOARTHROSIS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(4), 139-145.
22. Jamshidovich, A. S. (2024). EFFECT OF SIMETHICONE DROP IN FLATULENCE. *Лучшие интеллектуальные исследования*, *14*(1), 95-101.
23. Jamshidovich, A. S. (2024). BENEFITS OF BETADINE SOLUTION. *Лучшие интеллектуальные исследования*, *14*(1), 116-122.
24. Jamshidovich, A. S. (2024). EFFECT INHALED GLUCOCORTICOIDS IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND BRONCHIAL ASTHMA. *TADQIQOTLAR*, *31*(1), 171-180.
25. Jamshidovich, A. S. (2024). USE OF VIGANTOL IN RICKETS. *Лучшие интеллектуальные исследования*, *14*(1), 102-108.

26. Jamshidovich, A. S. (2024). THE VITAPROST DRUG RESULTS. *Лучшие интеллектуальные исследования*, *14*(1), 109-115.
27. Jamshidovich, A. S. (2024). THE ROLE OF BISEPTOL DRUG IN URINARY TRACT DISEASE. *Лучшие интеллектуальные исследования*, *14*(1), 89-94.
28. Jamshidovich, A. S. (2024). PROPERTIES OF THE DRUG DORMIKIND. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(5), 88-92.
29. Jamshidovich, A. S., & Komilovich, E. B. (2024). IMMUNOMODULATORY FUNCTION OF DIBAZOL DRUG. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(5), 83-87.
30. Jamshidovich, A. S., & Komilovich, E. B. (2024). ADVANTAGES OF THE DRUG HEPTRAL. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(5), 98-101.
31. Эргашов, Б. К., & Ахмедов, Ш. Ж. (2024). ГИПЕРТОНИЧЕСКАЯ БОЛЕЗНЬ ЭТИОЛОГИЯ. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 59-69.
32. Komilovich, E. B., & Jamshidovich, A. S. (2024). HYPERTENSION, CLASSIFICATION AND PATHOGENESIS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 50-58.
33. Komilovich, E. B., & Jamshidovich, A. S. (2024). YURAK ISHEMIYASI. STENOKARDIYADA SHOSHILINCH TIBBIY YORDAM. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 12-20.
34. Komilovich, E. B., & Jamshidovich, A. S. (2024). HYPERTENSION ETIOLOGY. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 32-41.
35. Komilovich, E. B., & Jamshidovich, A. S. (2024). CARDIAC ISCHEMIA. ANGINA NURSING DIAGNOSIS AND CARE. *Journal of new century innovations*, *46*(1), 44-52.
36. Jamshidovich, A. S. (2024). IMPORTANT INDICATIONS OF THE DRUG WOBENZYM. *Journal of new century innovations*, *46*(1), 29-32.
37. Jamshidovich, A. S. (2024). THE RESULTS OF THE EFFECT OF THE DRUG VALIDOL. *Journal of new century innovations*, *46*(1), 19-23.
38. Jamshidovich, A. S. (2024). VIFERON USE IN CHILDREN. *Journal of new century innovations*, *46*(1), 24-28.
39. Jamshidovich, A. S. (2024). USE OF DUSPATALIN (MEBEVERINE HYDROCHLORIDE) IN GASTROINTESTINAL DISEASES. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(5), 93-97.
40. Jamshidovich, A. S. (2024). ЭФФЕКТЫ СИРОПА ДЕПАКИНА (ВАЛЬПРОЕВАЯ КИСЛОТА). *Ta'lim innovatsiyasi va integratsiyasi*, *14*(2), 148-152.
41. Jamshidovich, A. S., & Komilovich, E. B. (2024). THE IMPORTANCE OF THE DRUG ALLOCHOL FOR CHRONIC CHOLECYSTITIS. *Ta'lim innovatsiyasi va integratsiyasi*, *14*(2), 133-137.
42. Jamshidovich, A. S., & Komilovich, E. B. (2024). ВАЖНЫЕ СВОЙСТВА ПРЕПАРАТА ДЕ-НОЛ (субцитрат висмута). *Ta'lim innovatsiyasi va integratsiyasi*, *14*(2), 143-147.

43. Jamshidovich, A. S., & Komilovich, E. B. (2024). SPECIAL FEATURES OF BUDECTON DRUG. *Ta'lim innovatsiyasi va integratsiyasi*, *14*(2), 138-142.
44. Jamshidovich, A. S. (2024). ЭФФЕКТИВНОЕ ВОЗДЕЙСТВИЕ ПРЕПАРАТА КЕЙВЕР. *Ta'lim innovatsiyasi va integratsiyasi*, *15*(3), 137-143.
45. Jamshidovich, A. S. (2024). USEFUL PROPERTIES OF THE DRUG YODOFOL. *Ta'lim innovatsiyasi va integratsiyasi*, *15*(3), 144-149.
46. Jamshidovich, A. S. (2024). FITOTERAPIYANING AKUSHER-GINEKOLOGIYADA AHAMIYATI. *Лучшие интеллектуальные исследования*, *15*(2), 121-125.
47. Jamshidovich, A. S. (2024). THE IMPORTANCE OF THE DRUG DOPROKIN. *Лучшие интеллектуальные исследования*, *15*(2), 109-114.
48. Jamshidovich, A. S. (2024). THE EFFECT OF DOSTINEX ON THE BODY. *Лучшие интеллектуальные исследования*, *15*(2), 115-120.
49. Jamshidovich, A. S. (2024). РЕЗУЛЬТАТЫ ЭФФЕКТИВНОГО ДЕЙСТВИЯ ПРЕПАРАТА КАНЕФРОН. *Лучшие интеллектуальные исследования*, *15*(2), 138-143.
50. Jamshidovich, A. S. (2024). СОВРЕМЕННЫЕ ЭФФЕКТЫ ПРЕПАРАТА ИНДОЛ. *Лучшие интеллектуальные исследования*, *15*(2), 126-131.
51. Jamshidovich, A. S. (2024). EFFECT OF ISMIZHEN DRUG ON BODY IMMUNITY. *Лучшие интеллектуальные исследования*, *15*(2), 132-137.
52. Jamshidovich, A. S. (2024). POSITIVE EFFECTS OF THE DRUG CARCIL. *Ta'lim innovatsiyasi va integratsiyasi*, *15*(3), 127-131.
53. Jamshidovich, A. S. (2024). РЕЗУЛЬТАТЫ ЭФФЕКТИВНОГО ДЕЙСТВИЯ КАВИНТОНА. *Ta'lim innovatsiyasi va integratsiyasi*, *15*(3), 132-136.
54. Jamshidovich, A. S. (2024). Современный Эффект Спрея Мометазон. *Research Journal of Trauma and Disability Studies*, *3*(3), 62-65.
55. Jamshidovich, A. S. (2024). THE ROLE OF" SIMONTE PLUS" DRUG IN THE MODERN TREATMENT OF BRONCHIAL ASTHMA. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(5), 66-70.
56. Jamshidovich, A. S. (2024). FEATURES OF THE BIOMECHANISM OF THE DRUG LEVOMYCETIN (CHLORAMPHENICOL). *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(9), 298-301.
57. Jamshidovich, A. S. (2024). THE MOST IMPORTANT INDICATORS OF OMEGA 3 SUBSTANCE IN THE METABOLISM OF THE HUMAN BODY. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(10), 113-117.
58. Komilovich, E. B., & Khalimovich, M. N. (2024). CARDIAC ISCHEMIA. ANGINA CLINICAL FORMS AND DIAGNOSIS. *Journal of new century innovations*, *46*(1), 70-78.
59. Komilovich, E. B. (2024). CORONARY HEART DISEASE. ANGINA EMERGENCY CARE. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(7), 235-242.
60. Komilovich, E. B. (2024). YURAK ISHEMIK KASALLIGI. STENOKARDIYANI DAVOLASHNING ZAMONAVIY TAMOYILLARI. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 3-11.

61. Jamshidovich, A. S. (2024). THE MOST IMPORTANT BENEFITS OF GINGER FOR THE HUMAN BODY'S IMMUNITY. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(11), 269-273.
62. Axmedov, S. (2024). THE SPECIFIC EFFECT OF THE DRUG" BAKLASAN" IN CEREBROVASCULAR DISEASES AND ITS PRACTICAL SIGNIFICANCE TODAY. *Modern Science and Research*, *3*(12), 485-492.
63. Komilovich, E. B. Z. (2023). Coronary Artery Disease. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *3*(12), 81-87.
64. Komilovich, E. B. (2024). CORONARY HEART DISEASE. ANGINA TREATMENT. *Journal of new century innovations*, *46*(1), 95-104.
65. Komilovich, E. B. (2024). HYPERTENSION TREATMENT. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(7), 227-234.
66. Эргашов, Б. К. (2024). ИШЕМИЧЕСКАЯ БОЛЕЗНЬ СЕРДЦА. СТЕНОКАРДИЯ ПРОФИЛАКТИКА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 21-31.
67. Axmedov, S. (2025). ВАЖНЫЕ СВОЙСТВА ПРЕПАРАТА ЭСКУЗАН ПРИ СОСУДИСТЫХ ЗАБОЛЕВАНИЯХ. *Modern Science and Research*, *4*(1), 380-387.
68. Эргашов, Б. К. (2024). ГИПЕРТОНИЧЕСКАЯ БОЛЕЗНЬ ДИАГНОСТИКА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 70-78.
69. Komilovich, E. B. (2024). HYPERTENSION DIAGNOSTICS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *38*(6), 42-49.
70. Axmedov, S. (2025). SPECIFIC PROPERTIES OF ROXERA DRUG IN CARDIOVASCULAR DISEASES. *Modern Science and Research*, *4*(2), 472-479.
71. Axmedov, S. (2025). THE DRUG PHYSIOTENS, THE FEATURES OF THE DRUG AND ITS USE IN THE FIELD OF CARDIOLOGY, IN PATIENTS WITH HEAVY BODY WEIGHT. *Modern Science and Research*, *4*(3), 350-358.
72. Axmedov, S. (2025). THE USE OF MIRENA IN GYNECOLOGIC DISEASES AND ITS SIGNIFICANCE. *Modern Science and Research*, *4*(4), 304-312.