COMPUTER MATHEMATICAL AND BIOCHEMICAL MODELING AND SIMULATION OF THE LIFE PROCESSES IN HUMAN ORGANS

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Motivation and Aim: The purpose of research is computer simulation of biochemical processes in human organs in his daily life, based on mathematical and biochemical methods for describing such processes and diverse library of templates conditions change their course based on various scenarios of the changing environment and the nature of their various influences. The results will be invaluable help in the study of diseases of the human body, and the development of the definition of irreversible biological and physical changes and allow it to plan scientifically based methods for its treatment.

Methods and Algorithms: To successfully solve this problem used the combination of biochemical methods and mathematical study of the various processes occurring in the human body in a variety of scenarios surrounding this change in body temperature and conditions of its functioning. Visualized representation for subtle physical and biochemical processes using the latest high-tech and effective information technology, allowing in some cases have not only a supporting role, but also research.

Results: Building representative strictly structured database characteristics specific organ functioning person with deep classification distinguishes the characteristics of his life. Building an effective database of various scenarios of changes in the isolated human body with a broad spectrum of influence on it of the changing environment , which gives the opportunity to quickly get the most comprehensive information in a different format requested. Building an effective technology dispatching dynamic changes of biochemical processes in the human body selected under different conditions by selected characteristics of these processes. Construction of specialized structured in different categories of the characteristic changes in the physical properties of the isolated human organ database at different scenarios of changes in its environment. Construction of mathematical and biochemical algorithms of modeling the functioning of the selected organ of human body under the influence of changing environmental conditions on the various scenarios it changes. Creating a rendered model of the functioning of human body with various characteristics and environmental change scenarios of biochemical processes. Creating an effective acupressure techniques on the course of biochemical and biomechanical processes in isolated human body under the influence of special biochemical preparations. Test a computer model of human body functioning under natural environmental conditions, corresponding to the most typical complaints of patients. Developing standards for treatment of human body by simulating the behavior of selected human body under different scenarios of targeting stroke occurring biochemical processes by introducing different biochemical preparations corresponding to the different methods of treating a disease of the body of man.