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«ІННОВАЦІЙНІ КОМП'ЮТЕРНІ ТЕХНОЛОГІЇ У ВИЩІЙ ШКОЛІ»

APPLICATION OF RAPID PROTOTYPING TECHNOLOGY TO CREATION FULL-SCALE ANATOMICAL MODELS FOR EDUCATION OF HEALTHCARE PROFESSIONALS

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In modern times, computer training methods are often used to train doctors and biomedical professionals. For example, these are systems of virtual tomographic and ultrasound diagnostics [1, 2] and development of microcontroller biomedical systems [3]. Therefore, the development of modern teaching methods and tools to improve the efficiency of the educational process are very relevant and modern tasks [4, 5].

The work is aimed at the use of three-dimensional models, which are made by methods of rapid probing – 3D-printing for the training of healthcare professionals. In rhinology - the manufacture of full-scale models of the upper respiratory tract in normal and in some typical pathological conditions allows us to study the features of the architecture of anatomical structures and to study some of their biophysical properties. This allows us to study the effect of changes in the anatomical configuration of the structures of the nasal cavity on the characteristics of nasal aerodynamics [6]. The preparation of such models is based on the segmentation of tomographic data of real patients. In the future, this method will allow computer planning of rhinosurgical interventions taking into account the characteristics of air flow in the nasal cavity and conduct training modeling of surgical interventions with maximum realism and taking into account individual anatomical and physiological variability.

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