

ID: 2023-03-4451-T-19872

Тезис

Gadayatova N.R.

The use of 3d printers in medicine*Saratov State Medical University n.a. V.I. Razumovsky*

Relevance. 3D printing has been used in medicine since the early 2000s, when this technology was first used for the manufacture of dental implants. Since then, the use of 3D printing in medicine has expanded significantly: doctors from all over the world describe ways to use 3D printing for the production of ears, skeletal parts, respiratory tract, jaw bone, parts of the eye, cell cultures, stem cells, blood vessels and vascular networks, tissues and organs, new dosage forms and much more.

Goal: to study the use of 3D printers in medicine.

Tasks: 1. Consider using a 3D printer in medicine. 2. Applications of 3D printers. 3. Show the principle of 3D printing.

The object of the study: 3d printers in medicine.

3D modeling in medicine allows you to create three-dimensional models. The technology has found application in aesthetic dentistry, oncology, otolaryngology and other fields. Three-dimensional models printed on the basis of additive technologies, coupled with computed tomography, have become one of the irreplaceable achievements in the field of medicine. Three-dimensional images of diseased organs are transformed into a high-quality image, and then converted into 3D models.

Modeling makes it possible to prepare for the operation as efficiently as possible and study the features of the disease. For example, when preparing for surgery to remove a tumor, doctors carefully study the size, shape, and outline of the neoplasm in three dimensions to understand what tactics to choose during surgery.

Conclusion. Thus, modern 3D printers help doctors to properly prepare for the operation.

Keywords: 3D printer, medicine, innovative technologies