The press service of the Institute of Innovation Development of the Samara State Medical University of the Ministry of Health of Russia (IR SamGMU) reported that the university experts developed the first domestic guide for operations on the brain. It is used as part of the Autoplan surgical navigation system and is intended for a biopsy.

The device replaces the traditional stereotactic frame, which is bulky and requires prolonged tuning. The new technology allows operations faster and with greater comfort for the patient.

Before the intervention, the KT or MRI data are loaded into a system that creates a 3D-model of the brain. The guide is fixed on the skull and accurately sets up the tool for the fabric sample along the planned trajectory. The surgeon can track the position of the needle in real time and adjust its movement with deviations.

The development is adapted to work with various types of biopsy needles and instruments of different diameters. This reduces the time of the procedure and increases its accuracy. The biopsy is used to diagnose tumors, cysts, abscesses and other brain pathologies.

The prototype has already passed testing in the leading medical institution and received positive reviews of neurosurgeons. In the near future, it is planned to register the device as part of the Autoplan navigation system.