

APPLICATION OF OPTICAL METHODS IN ASSESSMENT OF RECOVERY PROCESS
IN STROKE PATIENTS

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The aim of the study is to assess the applicability of optical techniques, such as near-infrared spectroscopy or diffuse correlation spectroscopy, in order to monitor recovery process in ischemic stroke patients. As part of this work, the techniques of time-resolved near-infrared spectroscopy with an optical contrast agent for the assessment of cerebral blood flow and cerebral blood volume as well as the technique of diffuse correlation spectroscopy for the assessment of the blood flow index will be utilized.

In addition, optical signals will be analyzed in the frequency domain. The assessment of spectral power in a given band will allow to evaluate, among others, the mechanism of self-regulation of the brain. The results of the study will be correlated with the results of standard clinical measurements and with the patient's neurological status in order to propose parameters for the evaluation of stroke patients recovery.

The research will be carried out in cooperation with the largest hospitals in Warsaw.