Bachelor's thesis "The Role of the radiotherapist in radionuclide brain examinations" is engaged Nuclear medicine imaging methods in the examination of the brain and the role of the radiotherapist at radioisotope nuclear examination in the brain.
The work is divided into nine parts. In the first and second part describes anatomy and physiology of the nervous system.
The third part is devoted to regional brain blood perfusion – an examination of brain perfusion and assessment of cerebrovascular reserve capacity, which is described preparation and advance in examination, used radiofarmaceutical, evaluation of SPECT examination and contraindication. For testing cerebrovascular reserve capacity are described options burdens. Furthermore, in this chapter refers to the differential diagnostics of dementia, the detection of epileptic focus, the diagnosis of brain death and diagnostics of brain trauma.
The fourth part is direct on receptor diagnostics. With respect to commercially supplied by diagnostic ligand is the most common examination dopamine system.
The fifth part deals with 18F-FDG – PET examination of the brain. Distribution and intensity of glucose metabolism in the brain can be visualized.
The sixth part deals with the diagnosis of brain tumors. In this chapter described the examination using of SPECT and PET methods.
Cerebrospinal fluid imaging is the seventh part. Are described coeliolymph spaces, indications and methods.
At the last part is focused on radiation protection. They described the effects radiation principles reasons, optimization and limits, radiation protection for workers and patients.
The last part is devoted to their work. It is the determination of the frequency of impulses in the brain and radionuclide examinations of the possibility of prediction of the optimum length of the acquisition to obtain high-quality image perfusion brain.