

Spinal cord injury is one of the most serious injury that leads to a decrease in the quality of life both physically and mentally. Although there is currently no effective treatment, great efforts are being made to develop new treatments. The effectiveness of experimental treatment is verified by behavioral tests performed on animal models, where rats are the most suitable ones for this type of injury. Behavioral tests are divided into several groups depending on what the testing is focused on. Locomotor tests examine the function of a locomotive apparatus, motor tests are used to determine the function of skeletal muscles not primarily involved in locomotion, sensory and motor tests test the functionality of sensory and motor apparatus and their interconnection, sensory tests are designed to test responses to sensory stimuli. Electrophysiological tests and functional magnetic resonance imaging are part of a series of special tests that use artificially induced electrical stimuli to measure muscle activity.

This thesis is focused on detailed description of selected behavioral tests, their functionality and comparison of their advantages and disadvantages.