

Neurorehabilitation in Parkinson's disease. Practical aspects.

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Neurological disorders, especially degenerative diseases, represent a leading cause of long term disability all over the world. Many advances have been done in the treatment of these pathologies. The need to identify therapeutic methods, able to limit brain damage or enhance recovery of motor and cognitive functions through neuroprotective and neurorestorative mechanisms, is desirable. There are many animal and human studies trying to elucidate the cellular and molecular mechanisms of plasticity of the nervous system. Neurorecovery is the positive outcome that produces clinically relevant results with immediate functional and late structural effects.

Neurorecovery depends on the adaptive plasticity of the undamaged nervous tissue, and of the non-affected elements of functional network. This process can be enhanced by pharmacological intervention, physical and cognitive activity, electromagnetic stimulation, psychological support, environmental stimulation or any demonstrated combinations of these factors capable of improving the patient's condition.

A better understanding of the mechanisms underlying the neuroplasticity will reflect in a more efficient and comprehensive treatment. This presentation will focus on the role these mechanisms in Parkinson's disease, and will give a brief overview on current neurorehabilitation procedures in this complex condition.