

A neurocognitive approach to recovery of movement following stroke

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Background: Most of the therapeutic and research interest following stroke has been directed toward motor impairments, relegating sensory and cognitive aspects involved in the quality of movement to a secondary role. Despite current neurophysiological advances, there are few studies in physical therapy that include all these aspects in stroke patients. **Objectives:** The present work aimed to review the involvement of mirror neurons in recovering the quality of post-ictal movement in a physical therapy intervention. **Major findings:** Neurocognitive Therapeutic Exercise (NTE) is a therapeutic approach that includes observation and motor imagery, among others, as perceptual and cognitive functions that generate experiences and afferent information flows without motor activity. Although this approach has shown to be effective on pain and function in shoulder and knee disorders, there is a paucity of evidence in stroke. NTE considers recovery as a learning process, the movement as a means to know and the body as a surface receptor for information. Aspects such as increasing experience, feedback or mirror neurons? functions are used to allow movements to be improved quantitatively and qualitatively. This could be achieved through the activation of pre-existing neural patterns before the stroke. **Conclusions:** The neurocognitive approach represents a novel and safe therapeutic intervention supported by neuroscience research. Its implementation in physical therapy could facilitate motor learning in stroke patients. Nevertheless, further research into cognitive strategies in neurological rehabilitation is required to demonstrate their effectiveness. ©

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