



Physical Rehabilitation: The Role of Positive Feedback

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Main goals of rehabilitation are to help patients to reach the fullest physical, physiological, social, vocational and avocational potential consistent with their level of impairment, desires and life plans [1]. Rehabilitation involves medical, social, educational, and vocational measures used to optimize neurologic recovery, teach compensatory strategies for residual deficits, and teach Activities of Daily Living (ADLs) and skills required for community living [2].

The majority of rehabilitation approaches that involve physical therapy are based on providing a patient with a positive re-enforcement of the patient's performance by the physical therapist who conducts the treatment or a by a computerized device used in rehabilitation. Thus, positive feedback is used in gait re-education of individuals with Parkinson Disease [3], in improving of pointing movements in individuals with stroke [4], in enhancement of postural control in individuals with traumatic brain injury and cerebrovascular accident [5]. Such positive re-enforcement helps a patient to focus on the quality of the produced movement, ambulation, or the body posture.

While the positive re-enforcement approach is extensively used in rehabilitation one can ask a question of whether rehabilitation based on using a positive feedback is the most efficient (and the only) way of restoring the lost ability to perform daily tasks or learning new movements and skills.

We contend that the rehabilitation of patients could also be efficient when they are subjected to a discomfort leading to a need to overcome it. The support for the above statement comes from a number of studies that use a negative feedback to improve the patient's body posture, gait pattern, or use of his/her affected extremity.

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