

## عنوان مقاله:

Neuroplasticity: From Activity to Neuron

## محل انتشار:

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## خلاصه مقاله:

Occupational therapy known as one of the major and most effective rehabilitation disciplines for certain neurodegenerative diseases such as CVA, MS, AD and PD. The progressive nature of these diseases always leads the patients to sever disabilities. Unfortunately, the current treatments for neurodegenerative diseases are not enough successful and serves only as symptomatic therapies. So neurorehabilitation techniques based on sensory-motor techniques and purposeful activities are of most effective and important. Neurorehabilitation occupational therapy mainly focusses on using sensory stimulation in order to restore and improve motor functions and abilities of the patients. The occupational therapists use different types of sensory integration and activities based techniques. It is believed that any stimulation that affects the nervous system could leads to motor output. Neuroscience researches opened new windows to answer the question of how the purposeful activities could lead to neuronal changes. The answer is neuroplasticity. Neuroplasticity can be defined as brain's ability to change, remodel and reorganize for purpose of better ability to adapt to new situations either physiology or pathology. Neuroplasticity is one of the most important discoveries in neuroscience. It is shown that neuroplasticity happens at synaptic and molecular level and any stimulation to nervous system leads to a cascade of molecular events that strengthen the effect of stimuli. Neuroplasticity includes structural changes including; synaptic plasticity, synaptogenesis, neuronal migration, neurogenesis and neural cell death. All these changes occur based on cellular and molecular mechanism that initiate by sensory stimulation. However, the exact mechanisms and how long does these changes remain are still unknown and needs more research.

## کلمات کلیدی:

Neuroplasticity, Activity, Sensory stimuli

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