Neuroplasticity, in essence, refers to the regenerative properties of the brain—a re-establishment and rearrangement of neural connections or rewiring of the brain function to compensate for damage, and the sooner this activity begins, the sooner one can recover. Reactive astrocytes prevent maladaptive plasticity after traumatic brain injury. We and others have shown that reactive gliosis limits a range of neuroplasticity and regenerative responses in the CNS, including both spinal cord injury (D’Amelio et al., 2003), baseline or pathology-triggered neurogenesis (Järlestedt et al., 2010; Wilhelmsson et al., 2012), and synaptic plasticity (Cullinan et al., 2009). 

Healthy Brain - Preventing Neurological Decline - Brain ... 

But research in the second half of the 20th century began to show the potential for neuroplasticity throughout our lives. The ability to trade the function or structure of neurons – allowing us to learn new information and new ways of thinking. 

Neuroscience of multilingualism - Wikipedia 

Various aspects of multilingualism have been studied in the field of neurology. These include the representation of different languages in the brain, the effects of bilingualism on the brain’s structural and functional plasticity, and the neural basis of abilities to speak more than one language and understand multiple languages. 

Mindfulness and the Brain: What Does Research and ... 

Synaptic Plasticity: Multiple Forms, Functions, and ... 

Thus, elucidating the detailed molecular mechanisms underlying synaptic plasticity in any number of different brain regions is critical for understanding the neural basis of many aspects of normal and pathological brain function. 

Hebbian theory - Wikipedia 

How Exercise Affects Your Brain - Scientific American 

Ten Principles of Neuroplasticity. Kleim and Jones* outlined ten principles of neuroplasticity that can be helpful to the rehabilitation professional when designing motor training regimens to aid in recovery from a stroke. 

After watching this, your brain will not be the same ... 

In a classic research-based TEDx Talk, Dr. Lara Boyd describes how neuroplasticity gives you the power to shape the brain you want. Recorded at TEDxVancouver... 

Examples of Neuroplasticity in Cognitive Domains - Rainbow ... 

Neuroplasticity after brain injury. While evidence exists for experience-dependent changes in the brain within some of the cognitive domains, there is less research discussing cognitive plasticity and recovery following acquired brain injury (ABI), in particular, maximum brain injury (fTB). 

Principles of Experience-Dependent Neural Plasticity ... 

This neuroplasticity is, itself, driven by changes in behavioral, sensory, and cognitive experiences. In our view, the emergent process of functionally adaptive plasticity in healthy brains is one that is promoting reorganization of remaining brain in the damaged brain. This approach of using the process of neuroplasticity to improve function in a damaged brain is a primary focus of our research.

The Brain's Way of Healing: Remarkable Discoveries and ... 

The Brain's Way of Healing shows that this very sophistication is the source of a unique kind of healing. What is the brain’s “neural plasticity”? And how is it related to our ability to shape the brain...?