

Spinal Sensitization in Pain Rehabilitation

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Classic descriptions of pain typically include four processes: Transduction, transmission, perception, and modulation. In persistent pain, Central Nervous System signals can result in a hypersensitivity or central sensitization response. As sensitization has been defined as an increased response to stimulation, this process may occur from nociceptors in peripheral tissues to brain areas responding to nociceptive inputs. Central sensitization explains changes observed in sensitivity threshold, time and region of pain in clinical situations of acute and chronic pain. Negative changes in the transmission of pain tend to occur through a process of sensitization. The nervous system can become sensitized at peripheral sites as well as centrally at dorsal horn and/or brain. Some clinical syndromes which central sensitization contribute involved rheumatoid arthritis, osteoarthritis, temporomandibular disorders, fibromyalgia, miscellaneous musculoskeletal disorders, complex regional pain syndrome, post surgical pain, and visceral pain hypersensitivity syndromes. Centrally acting drugs are available that specifically target processes known to be involved in Central Sensitization pain. And also use of topical analgesics may be associated with fewer patient systemic side effects. Exercise therapy also has the capacity to activate brain-orchestrated endogenous analgesia in patients with chronic pain. In some patients with chronic pain (including those with chronic low back pain, shoulder myalgia and rheumatoid arthritis), exercise activates powerful top-down pain inhibitory action, typically referred to as exercise-induced endogenous analgesia. There are also some pain neuroscience education which motivates patients for applying cognitive behavioral strategies to cope with their pain. Other options include spinal segmental sensitization and segmental desensitization.