

## **Neurocognitive Enhancement for the Treatment of Chronic Pain.**

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### ***Introduction:***

Chronic pain remains at epidemic levels in the United States, affecting approximately 25-30% of the population. At present, treatments generally target symptom relief and seldom address improvements in quality of life and overall healing. Recent insights in neurobiology have demonstrated that chronic pain is a disease of cortical and sub-cortical structures. Thus, treatments can be designed to enhance specific areas of the brain affected by chronic pain and thereby, improve patients' cognitive and emotional abilities.

### ***Method:***

21 detoxified patients (13 women and 8 men; average age = 48.5; average time opiate dependent = 8 years) with various chronic pain complaints were enrolled in a 12-month comprehensive pain management program designed to enhance brain areas affected by pain. Treatments included group process, mindfulness exercises, movement exercises (Tai Chi, Qi Gong, and Yoga), manual treatments, and social capital (treatment community). Patients met weekly for a group process that addressed emotional and cognitive decision making strategies, cognitive change, and movement. Patients received monthly manual treatments. All were assessed initially and at months 3, 6, 9, and 12 with a visual analogue pain scale, the Beck Depression Inventory, the McGill Pain Scale (short form), and the Perceived Stress Scale.

### ***Results:***

By month 12, patients' scores declined dramatically on all tests, and these improvements were statistically significant (t-test). Mean reductions:

visual analogue (7.0→2.3),  
depression (26.4→4.6),  
McGill-somatic (22.7→5.4),  
McGill-affective (7.7→1.5), and  
perceived stress (26.5→12.8).

### ***Discussion:***

Targeted treatments appear effective in restoring several aspects of chronic pain patients' lives.