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Pain Decreases Under Hypnosis

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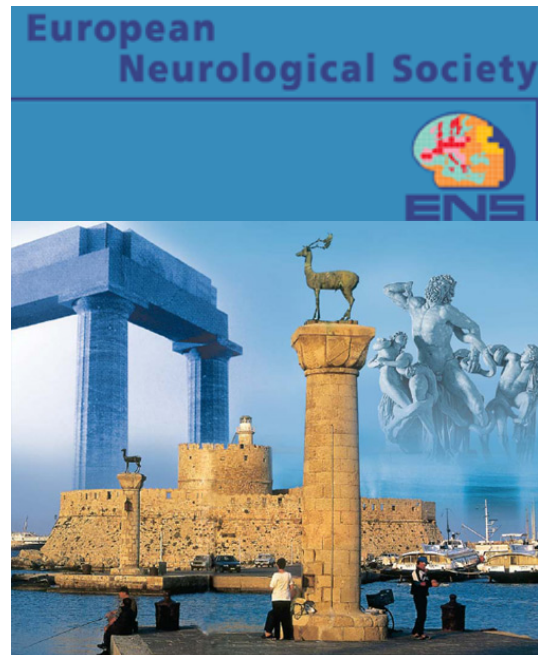
Hypnosis can offer significant reduction in pain awareness without any effect on non-painful aspects of the subject's perception. It therefore is most effective in altering perception of acute pain, experts reported at the European Neurological Society Meeting in Rhodos (Greece).

The ways in which hypnosis may reduce a patient's sensitivity to painful stimuli at the level of neuron activity has not been well understood. A study by teams of researchers at the Universities of Liège in Belgium and Copenhagen, Denmark, has now demonstrated that hypnosis can offer significant reduction in pain awareness without any effect on non-painful aspects of the subject's perception. Hypnosis is most effective in altering perception of acute pain, experts reported at the 17th Meeting of the European Neurological Society from June 16 to 20 in Rhodos (Greece).

The study used 13 healthy subjects and tested them twice, once in a normal state and once while hypnotised. During the two sessions functional magnetic resonance imaging, which traces which regions of the brain are active at a given moment, was used to observe how pain was registered at the level of neural mechanisms. Each participant received 200 laser stimuli in increasing intensity on the left hand. They were asked to rate their sensations from no pain perception, on a five point scale, to intense pain. The results then underwent statistical parametrical mapping, which allows researchers to screen out background neural activity from the brain scans and highlight neuron activity related solely to the area under investigation, in this case neural response to pain stimuli.

"Perception of intense pain was significantly altered while participants were under hypnosis", says Dr. Steven Laureys from the Coma Science Group, University of Liège. "Measured by brain activity, hypnosis reduced acute pain perception by about a third. However for levels of pain at the low end of the scale, hypnosis barely altered perception of the stimuli."

The map of the brain scans allowed the research teams to identify which areas of the brain were affected in the hypnotic state. It appears that pain continues to be registered



in what is known as the primary somatosensory cortex, which is the the main sensory receptive area for the sense of touch in the brain, in the hypnotised state. Other areas of the brain involved in pain perception such as the anterior cingulate gyrus, which allows sensory stimuli to trigger appropriate physical reactions and affect emotions, areas governing the processing of new memories or the links between emotion and sense perception, were shown to respond to stimuli significantly less in the hypnotic state, as compared to the normal state.

Dr. Laureys: "We were able to demonstrate clearly at the level of neural mechanisms that hypnosis has actual effects in reducing pain perception. It appears that pain continues to be registered in the primary somatosensory cortex," he explained, "but other areas of the brain involved in pain perception, such as the anterior cingulated gyrus, which allows sensory stimuli to trigger appropriate physical reactions and affect emotions, respond to painful stimuli significantly less in the hypnotic state, as compared to the normal state."