

Neural Prosthesis Seminar

Chronic Pain Mechanisms and How They May be Affected by Spinal Cord Stimulation

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Abstract

Chronic pain is not merely a repetition of acute. It is associated with the recruitment of a number of pathophysiological changes which serve to amplify the processing of noxious information. The biology and pharmacology of these processes has been particularly well studied in the peripheral nervous system and in the spinal cord. I will in this lecture initially review these mechanisms and the evidence that they contribute to chronic pain states in humans. I will then consider how chronic pain mechanisms might be modified by repetitive electrical stimulation of the spinal cord. I will discuss both 'conventional', relatively low frequency epidural stimulation at 50-100 Hz, and also the more recently introduced high frequency stimulation. I will describe some of the experiments that we have undertaken using 10 kHz stimulation on the processing of sensory information by both peripheral axons and spinal cord neurons.

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Live stream video link for each lecture at www.FEScenter.org/Seminar