

Neurostimulation

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10/17/08

BME 282

Neurostimulation is the stimulation of the spinal cord by small electrical impulses. These electrical impulses block the transmission of pain messages to your brain. Most people only feel a slight tingling sensation instead of the pain they should have been feeling.

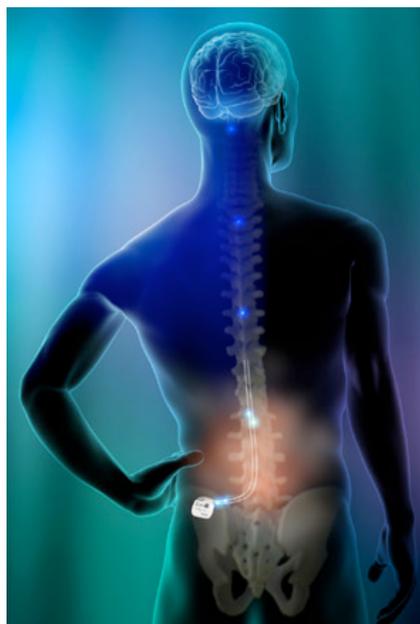
Neurostimulation has been around much, much longer than most people would think. The earliest known attempt at Neurostimulation is thought to be that of Mesopotamian healer Scribonius Largus. Largus would use a specific sort of electric eel, the Torpedo Fish, to put an electric charge into the human body to stun the nervous system causing a comforting numbness to spread to the pained area. The Torpedo Fish would be placed directly onto the body where the pain is. They could also be placed into a pool of water and the pained extremity could be placed into the pool.

Neurostimulation techniques have evolved quite a bit since those days. The modern Neurostimulation device was born in 1964 by Dr. E.A. Spiegel from the Department of Neurosurgery at Temple University Hospital, Philadelphia. Many people thought that this device was far ahead of its time and so it was never implanted into a patient. The reluctance to use this technology was ended by neurosurgeon C. Norman Shealy who in 1967 implanted the first Neurostimulation device into a terminally ill cancer patient for pain relief. By 1970 six patients had gone through this surgery.

The modern Neurostimulators are implantable, pacemaker-sized devices that send electrical stimulation through a lead to electrodes implanted near the spinal cord. The device is very small so there is only a small bulge that shows through the skin. A complete neurostimulator system includes: a tiny integrated circuit, a radio-wave transceiver, a battery, and a connector block. It is easily customizable by the patient, allowing for easy adjustment of the strength of the signal and how much of their bodies are covered by the signal.

Neurostimulation therapy is gaining popularity. Many advances in microprocessors, biocompatible materials, batteries, RF communications and software are now being combined to make much more effective systems, as well as easier to implant and, above all, more patient-friendly. Many people are choosing Neurostimulation instead of drugs or regular surgery.

Neurostimulation therapy has many useful applications besides pain management. It is also useful for other illnesses ranging from epilepsy to deafness and morbid obesity. The most common illnesses that are currently being treated with Neurostimulation therapy include people with chronic radiculopathy (sciatica), failed back syndrome, neuropathy, reflex sympathetic dystrophy (complex regional pain syndrome), or vascular insufficiency.



Resources:

<http://www.burtonreport.com/infspine/NSHistNeurostimPartI.htm>

http://www.painandwellness.com/spinal_injections_neurostimulation.html

<http://www.burtonreport.com/infspine/NSHistNeurostimPartII.htm>

http://www.designnews.com/article/5059-Neurostimulation_Comes_of_Age.php