

Recent Advances In Neuromodulation For Chronic Pain

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Modification of the human pain response by electrical means has been in use for centuries. Until the discovery of ways of generating and storing electricity, sources were found only in the natural world; writings from Roman times attest to the use of electric fish in the treatment of a wide variety of ailments. What we now know as TENS was used from the late 19th century onwards, but implantable devices only became practicable with microcircuitry.

Having remained fairly linear since Melzack and Wall's elucidation of the Gate Theory, there has been a recent explosion in the development of new stimulation paradigms which appear not only to work on different pathways, but also to be more effective. At the same time, hardware development has allowed easier implantation, and there is now a real choice for patients and operators.

This talk examines some of these innovations and assesses how close we are to having neuromodulation as an integral and affordable option in the relief of chronic pain of various origins.