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(54) Title: METHODS FOR TREATING HEART ARRHYTHMIA

(57) Abstract: Methods and apparatus are provided for treatment of heart arrhythmia via renal neuromodulation. Such neuromodulation may effectuate irreversible electroporation or electrofusion, ablation, necrosis and/or inducement of apoptosis, alteration of gene expression, action potential attenuation or blockade, changes in cytokine up-regulation and other conditions in target neural fibers. In some embodiments, such neuromodulation is achieved through application of an electric field. In some embodiments, such neuromodulation is achieved through application of neuromodulatory agents, of thermal energy and/or of high intensity focused ultrasound. In some embodiments, such neuromodulation is performed in a bilateral fashion.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/84705

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61N 1/00 (2008.04)

USPC - 607/3

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8): A61N 1/00 (2008.04)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST (PGPB,USPT,EPAB,JPAB): arrhythmia, tachycardia, bradycardia, electric field, kidney, renal, sympathetic tone, neural, nerve, fiber, neuromodulatory, agent, drug, high intensity, ultrasound, endoluminal, workload, heart; esp@cenet: aridian, demarais, Gifford; Google Scholar: arrhythmia, instrument, fiber, renal, drug

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2006/0206150 A1 (DEMARAI et al.) 14 Sep 2006 (14.09.2006); abstract; para [0010], [0012], [0021], [0022], [0034], [0039], [0041], [0044], [0048], [0055], [0056]	1-48
Y	US 5,814,079 A (KIEVAL) 29 Sep 1998 (29.09.1998); abstract; col 5, ln 59-61	1-33, 35-37, 40, 44-48
Y	US 2003/0216792 A1 (LEVIN et al.) 20 Nov 2003 (20.11.2003); abstract; para [0015], [0114]	1-10, 20, 33, 38-44, 48
Y	US 5,199,428 A (OBEL et al.) 6 Apr 1993 (06.04.1993); abstract	10-20, 32, 34-38, 43, 45, 47

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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