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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



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(54) Title: SPINAL NUCLEUS IMPLANT

(57) Abstract: The present invention is a spinal nucleus implant (21A) for replacement of at least a portion of nucleus pulposus tissue (13) removed from a spinal disc of a living vertebrate to restore function of the spinal disc (1) and related vertebral joint. The implant is an anisotropically swellable, biomimetic xerogel plastic, having a two phase structure with a hydrophobic phase having high crystallinity and low water content and with hydrophilic phase having low crystallinity and high water content and having negatively charged lubricious surface. The xerogel plastic is capable of rehydration and of osmotic movement of liquid therethrough in response to osmotic pressure change to thereby increase and decrease liquid content in its hydrated state. The present invention also relates to surgical implant procedures utilizing this spinal nucleus implant (21A).

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/27027**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A61F 2/44

US CL : 623/17.16

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)

U.S. : 623/17.16, 17.11-17.15, 17.17, 18.11, 16.11, 13.11, 11.11

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)

Text Search EAST & WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,047,055 A (Bao et al) 10 September 1991. See Figs. 2 & 3. See the implant (10) expansion.	27-29, 31-33
A	US 5,192,326 A (Bao et al) 09 March 1993. See Figs. 2 & 3.	1 and 27

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:		"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"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
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

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