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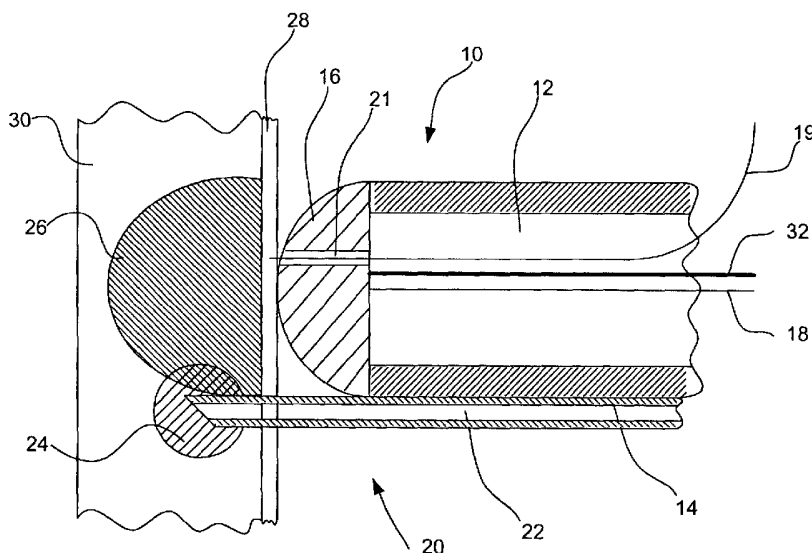
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(54) Title: ULTRASOUND SYSTEM AND METHOD FOR REVASCULARIZATION AND DRUG DELIVERY



(57) Abstract: A method and device for improving blood circulation to an area of interest within a patient's heart is described. The method comprises inserting a guidable elongated flexible ultrasound device into a patient's vasculature, applying ultrasonic energy to an area in need of improved circulation, and injecting materials such as angiogenic materials or contrasting agents into the area of interest. The device, suitable for performing the method, comprises an elongated tubular body, a distal head of the elongated tubular body for introducing ultrasonic energy to an area of interest, and a needle to deliver materials to an area of interest.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/03589

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61B17/22 A61N7/00</p>		
<p>According to International Patent Classification (IPC) or to both national classification and IPC</p>		
<p>B. FIELDS SEARCHED</p>		
<p>Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61B A61N</p>		
<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p>		
<p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data</p>		
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p>		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	<p>WO 00 16704 A (EKOS CORP) 30 March 2000 (2000-03-30) page 5, line 6,7,20-24 page 9, line 27 -page 10, line 3,16-24 page 11, line 3-20,28 -page 12, line 11; claims 1,13,28; figures 1A,2A,2C,6</p> <p>---</p>	<p>15-17, 19,20 18</p>
X	<p>WO 00 18305 A (STAMBAUGH BRUCE D ;NGUYEN HIEN V (US); HEARTEN MEDICAL (US); LAUFE) 6 April 2000 (2000-04-06) page 10, line 3-19 page 11, line 11-17; claims 1,4,5,12,13; figure 3</p> <p>---</p>	<p>15, 16, 19,20</p>
X	<p>WO 97 29701 A1 (FENSTER MAIER ET AL) 21 August 1997 (1997-08-21) page 10, line 1 -page 11, line 10 figure 1C</p> <p>---</p>	<p>15-17, 19,20</p>
<p>--- -/--</p>		
<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>		
<p>° Special categories of cited documents :</p>		
<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P*</p>		
<p>*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</p> <p>*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</p> <p>*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.</p> <p>*&* document member of the same patent family</p>		
<p>Date of the actual completion of the international search</p> <p style="text-align: center;">5 July 2002</p>		<p>Date of mailing of the international search report</p> <p style="text-align: center;">16/07/2002</p>
<p>Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016</p>		<p>Authorized officer</p> <p style="text-align: center;">Reinbold, F</p>

INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 095 981 A (MCGAHAN JOHN P) 1 August 2000 (2000-08-01)	18
A	column 1, line 60 -column 2, line 2 column 3, line 1-18; claim 1; figure 1 -----	15
A	US 6 102 867 A (RANALLETTA JOSEPH V ET AL) 15 August 2000 (2000-08-15) column 3, line 35-52 column 5, line 15 -column 6, line 27; figures 1,2 -----	15,18
P,X	WO 01 97698 A (AN GO GEN INC ;STEWART DUNCAN (CA)) 27 December 2001 (2001-12-27) page 2, line 26 -page 3, line 28 page 8, line 17-23; figures 1,4 -----	15-17, 19,20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/03589

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 1-14
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy or surgery
2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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