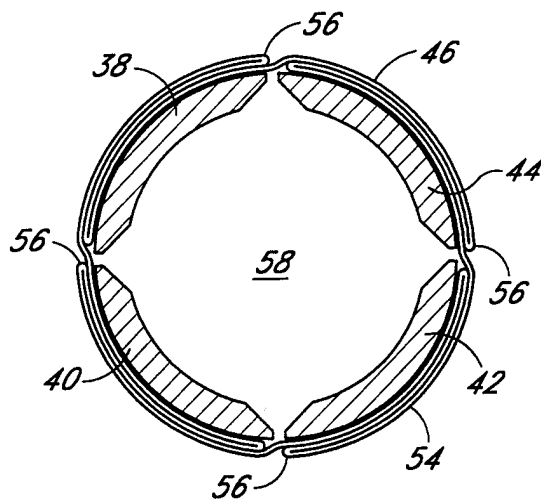




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(54) Title: EXPANDABLE ACCESS DEVICE AND METHOD OF CONSTRUCTING AND USING SAME



(57) Abstract

A radially expandable access device having an introducer (30) with a plurality of leaves (36) surrounded by a lubricous, pleated membrane (46) is disclosed. The pressed and pleated membrane (46) holds the leaves (36) in an initially tight configuration to form a lumen (58) for the insertion of a medical instrument, such as a verres needle. Because of the narrow cross-sectional profile, the size of the entry wound or other entry point necessary to gain entrance into the patient's body is very small, thereby minimizing pain and discomfort to the patient. If desired, the entry wound can later be expanded, rather than cut or torn, by the introduction of a larger instrument in the lumen of the introducer. Upon deployment of a larger medical instrument in the lumen (58), the leaves (36) separate from one another as the instrument is inserted therethrough and the membrane (46) unpleats.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/23913

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : A61M 5/00, 25/00
US CL : 604/264

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. : 604/49, 51-53, 96, 104-107, 158, 160, 163, 164, 167, 171, 264, 280, 282; 606/191, 198

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 5,707,359 A (BUFALINI) 14 NOVEMBER 1995, FIGURES, CLAIMS, AND COL. 3 LINE 32.	1-7, 9, 11-15, 20, 23-25 8, 10, 16-19, 21, 22
X	US 4,716,901 A (JACKSON ET AL.) 5 JANUARY 1988, FIGURES	1-4, 6, 7, 9, 11
Y	US 4,211,234 A (FISHER) 08 JULY 1980, FIGURES AND ELEMENT (36).	5
Y	US 5,318,587 A (DAVEY) 07 JUNE 1994. CLAIMS, COL 4 LINES 18-22, COL 5 LINE 66- COL 7 LINE 8.	88

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PCT/US97/23913

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 5,318,588 A (HORZEWSKI et al.) 07 June 1994, figures, and claims.	10
A	US 5,411,517 A (GUIGNARD) 02 May 1995.	1-14
A	US 5,454,790 A (DUBRUL) 03 October 1995.	1-14
A	US 5,320,611 A (BONUTTI et al.) 14 June 1994, figures.	1-14