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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 :
A61M 25/00, A61B 17/00, A61M 25/06

A1

(11) International Publication Number: WO 98/24501

(43) International Publication Date: 11 June 1998 (11.06.98)

(21) International Application Number: PCT/US97/21253

(22) International Filing Date: 21 November 1997 (21.11.97)

(30) Priority Data:
1) 08/756,763 26 November 1996 (26.11.96) US
2) 08/953,105 17 October 1997 (17.10.97) US

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(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: MULTIPLE LUMEN ACCESS DEVICE

(57) Abstract

A multiple lumen access device for use in providing a single entry port into the human body for selectively introducing medical implements therethrough and for providing simultaneous auxiliary access into the body. The multiple lumen access device (10, 400, 500, 520, 550) includes a multiple lumen sheath (404, 506, 530) which may have an outer tube (12, 422) and structure defining a device lumen (30, 31, 130, 230, 330, 426, 574, 582, 586) located therein. The inner structure may be an inner tube (24, 124, 224, 324, 432). The outer tube and inner structure are located so as to define at least one auxiliary lumen (36, 37, 48, 49, 138, 140, 142, 236, 248, 336, 428, 584, 588) which may be located between the exterior surface of the inner tube and the interior surface of the outer tube. Embodiments include flexible inner tubes which can be flexed between relaxed and expanded/contracted positions wherein the relative cross–sectional areas of the device lumen and auxiliary lumens are varied. The access device further includes a valve (70, 418, 502, 514, 528, 532, 554) which provides sealing of the device lumen. The valve may be provided in a lumen junction housing (56, 402), or separate from the housing either permanently or removably connected with the device lumen. Alternatively, a multiple lumen sheath (560) may be passed through a valve (554) leading to a conventional introducer (564). The valve may also be molded separately as a rigid insert (418) and retained in a cavity (450) formed in a flexible junction housing.

