

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 November 2007 (01.11.2007)

PCT

(10) International Publication Number
WO 2007/123963 A3

(51) **International Patent Classification:**
A61F 5/00 (2006.01) A61B 17/58 (2006.01)

(21) **International Application Number:**
PCT/US2007/009512

(22) **International Filing Date:** 19 April 2007 (19.04.2007)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
60/793,120 19 April 2006 (19.04.2006) US
60/847,501 27 September 2006 (27.09.2006) US

(71) **Applicant (for all designated States except US):** **IBALANCE MEDICAL, INC.** [US/US]; 4900 Nautilus Court, Suite 100, Boulder, CO 80301 (US).

(72) **Inventors; and**

(75) **Inventors/Applicants (for US only):** **MERCHANT, Alan, C.** [US/US]; 124 Marvin Avenue, Los Altos, CA 94022 (US). **AMMANN, Kelly, G.** [US/US]; 2335 Panorama Avenue, Boulder, CO 80304 (US). **SIRIANNE, Raymond, A.** [US/US]; 2810 Olympia Lane, Evergreen, CO 80439 (US).

(74) **Agent:** **PANDISCIO, Mark, J.;** Pandiscio & Pandiscio, PC, 470 Totten Pond Road, Waltham, MA 02451 (US).

(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, **BR**, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, **HR**, HU, **ID**, IL, IN, IS, **JP**, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

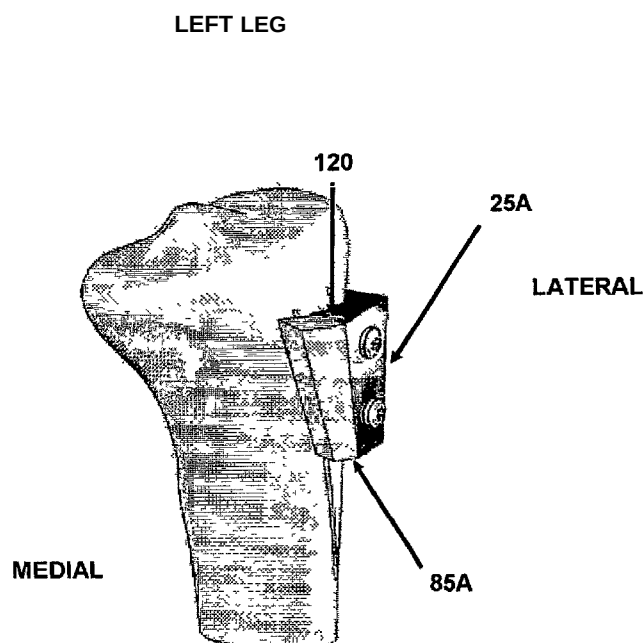
(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) **Date of publication of the international search report:**
12 September 2008

(54) **Title:** METHOD AND APPARATUS FOR PERFORMING MULTIDIRECTIONAL TIBIAL TUBERCLE TRANSFERS



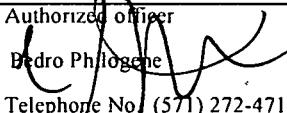
(57) **Abstract:** A method for performing a multidirectional tibial tubercle transfer, comprising: positioning a jig against the anterior portion of the tibia, the jig comprising first and second cutting guides, wherein the first and second cutting guides simultaneously converge towards one another as they extend (i) distally down the tibia, and (ii) posteriorly towards the tibia; cutting first and second saw cuts into the tibia, wherein the first saw cut is aligned with the first cutting guide and the second saw cut is aligned with the second cutting guide; attaching an extender to the jig, wherein the extender comprises a third cutting guide, wherein the third cutting guide simultaneously converges towards the first cutting guide as the third cutting guide extends (i) distally down the tibia, and (ii) posteriorly towards the tibia; cutting a third saw cut into the tibia, wherein the third saw cut is aligned with the third cutting guide; freeing a first bone block from the tibia, wherein the first bone block is formed between the first saw cut and the second saw cut, and freeing a second bone block from the tibia, wherein the second bone block is formed between the first saw cut and the third saw cut; and transferring the position of the first bone block relative to the tibia. Apparatus for performing a multidirectional tibial tubercle transfer,

comprising: a jig for positioning against the anterior portion of the tibia, the jig comprising first and second cutting guides, wherein the first and second cutting guides simultaneously converge towards one another as they extend (i) distally down the tibia, and (ii) posteriorly towards the tibia; and an extender for attaching to the jig, wherein the extender comprises a third cutting guide, wherein the third cutting guide simultaneously converges towards the first cutting guide as the third cutting guide extends (i) distally down the tibia, and (ii) posteriorly towards the tibia.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US07/095 12

A CLASSIFICATION OF SUBJECT MATTER IPC A61 F 5/00 (2006 0 1) A61B 17/58 (2006 0 1) USPC 606/87 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 606/87,88,89,86,96,97,53 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) EAST		
C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 6,689, 139 B2 (Horn) 10 February 2004 (10 02 2004) see entire document	1-27
A	US 6,823,87 1 B2 (Schmieding) 30 November 2004 (30 11 2004) see entire document	1-27
☐ Further documents are listed in the continuation of Box C D See patent family annex		
* Special categories of cited documents 'A" document defining the general state of the art which is not considered to be of particular relevance E" earlier application or patent published on or after the international filing date '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) 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		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 '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 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 28 March 2008 (28 03 2008)		Date of mailing of the international search report 17 APR 2008
Name and mailing address of the ISA/US Mail Stop PCT, Attn ISA/US Commissioner for Patents P O Box 1450 Alexandria, Virginia 22313-1450 Facsimile No (57 1) 273-320 1		Authorized officer  Pedro Philogene Telephone No (571) 272-4716