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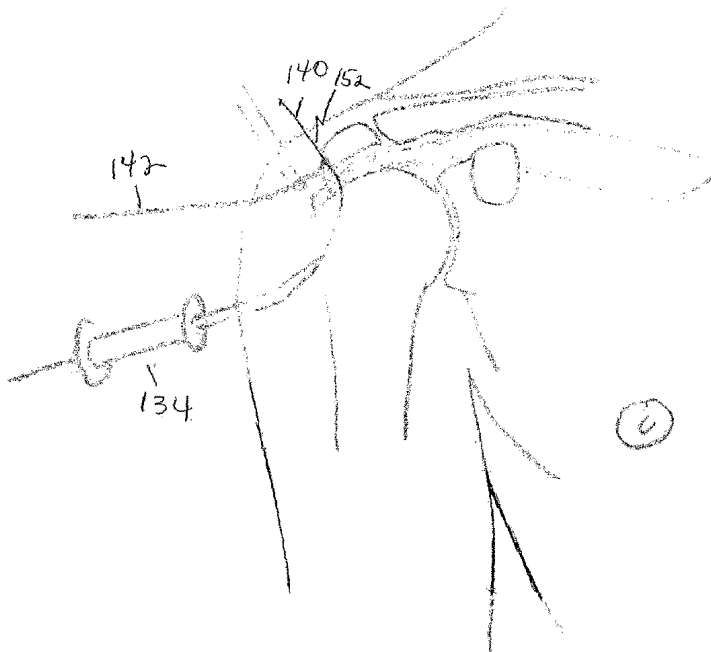
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DEVICES AND METHODS USED FOR SHOULDER REPLACEMENT



(57) Abstract: A method that does not damage the rotator cuff is disclosed and a device (152) for shoulder replacement. The method utilizes two ante superior passages to gain access to the glenohumeral joint, without either procedure transection of the rotator cuff. Also a transhumeral portal is created through the second anterosuperior passage for use as a working tunnel. Various medical instruments are used to prepare the passages.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/26085

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61F 2/40(2006.01)

USPC: 623/19.11

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. : 623/19.11, 19.12, 19.13, 19.14, 908; 606/86, 90, 96, 99, 104

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	Burkhead, Wayne. BIONX IMPLANTS INC. Announces the Release of its Contour Labral Nail, PR Newswire, November 23, 1999, page 1.	1,4,6,9
X	US 2003/144738 A (Rogalski) 31 July 2003, paragraphs 19,39,42, Figs. 3,4.	1,3,17-19,25,26,49
X	US 2002/95214 A (Hyde) 18 July 2002, paragraphs 55,64,66,69,70,78, Figs. 2G, 2Q, 2R, 4B, 12B, 14A,14B, 18, 19.	1-7,22-29,49

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 application or patent 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		

Date of the actual completion of the international search
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International application No.

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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.:
because they relate to subject matter not required to be searched by this Authority, namely:

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 No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

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 additional fees, this Authority did not invite payment of any additional fees.
 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.: 1-49
- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - No protest accompanied the payment of additional search fees.

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-49, drawn to a method of repairing a shoulder.

Group II, claim(s) 50-71,113-116,144,145,147-150, drawn to a humeral implant.

Group III, claim(s) 72-93,109-112,144,146,151-154, drawn to a glenoid implant.

Group IV, claim(s) 94-99,103-108,158,159 drawn to a guide for bone repair.

Group V, claim(s) 100-102, drawn to a reamer.

Group VI, claim(s) 117-123, drawn to a sizer and guide.

Group VII, claim(s) 124-126, drawn to a bone drill.

Group VIII, claim(s) 127,143, drawn to a bone burr device or retractor.

Group IX, claim(s) 128, drawn to a bone punch.

Group X, claim(s) 129, drawn to a suction device.

Group XI, claim(s) 130-132, drawn to a cement application device.

Group XII, claim(s) 133-136, drawn to a bone impactor.

Group XIII, claim(s) 137-142, drawn to a screw insertion tool.

Group XIV, claim(s) 155, drawn to a method of repairing a rotator cuff.

Group XV, claim(s) 156,157, drawn to a suture pin.

The inventions listed as Groups V-XIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the tools claimed all have different functions and lack the same technical features because the common technical feature, a "removable shaft" is not novel and is well known in the art.

The inventions listed as Groups I and XIV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the different surgical procedures have

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no common special technical features because the common feature in the methods of providing a bore in the humerous is not novel and is known in the art.

The inventions listed as Groups II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the different shoulder implant components have different structural designs and can be used individually and having pieces removably attached to other pieces is well known in the art.

The inventions listed as Groups IV and XV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the devices are different structurally and tips are known in the art for insertion apparatus in the body and thus there is no common technical feature.