



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>6</sup> : <b>A61L 31/00, 27/00, A61F 2/00</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 98/30141</b></p> <p>(43) International Publication Date: 16 July 1998 (16.07.98)</p>
<p>(21) International Application Number: PCT/US98/00414</p> <p>(22) International Filing Date: 8 January 1998 (08.01.98)</p> <p>(30) Priority Data: 08/781,012 9 January 1997 (09.01.97) US 08/833,874 10 April 1997 (10.04.97) US</p> <p>(71) Applicant (for all designated States except US): COHESION TECHNOLOGIES, INC. [US/US]; 2500 Faber Place, Palo Alto, CA 94303 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): CHU, George, H. [US/US]; 21020 Rainbow Drive, Cupertino, CA 95014 (US). YEUNG, Jeffrey, E. [US/US]; 834 N. White Road, San Jose, CA 95127 (US). CASSIDY, James, J. [US/US]; 11739 Spruce Run Drive, San Diego, CA 92131 (US). SCHROEDER, Jacqueline, A. [US/US]; 1133 Woodrow Street, Redwood City, CA 94061 (US). BROWN, Melissa, K., C. [US/US]; 244 Lyell Street, Los Altos, CA 94022 (US). SHENOY, Vivek, N. [IN/US]; 1291 Vicente Drive #235, Sunnyvale, CA 94086 (US). RICE, John [US/US]; 31 Red Rail Farm Lane, Lincoln, MA 01773 (US).</p>	<p>(74) Agents: AXFORD, Laurie, A. et al.; Morrison &amp; Foerster LLP, 755 Page Mill Road, Palo Alto, CA 94304-1018 (US).</p> <p>(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, GH, GM, GW, HU, ID, 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, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, 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).</p> <p><b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 26 November 1998 (26.11.98)</p>	
<p>(54) Title: DEVICES FOR TISSUE REPAIR AND METHODS FOR PREPARATION AND USE THEREOF</p>		
<p>(57) Abstract</p> <p>Disclosed herein are uniformly shaped swellable devices comprising polymeric materials, as well as apparatuses and processes for their manufacture. In one embodiment, the present invention relates to load bearing implant devices for use in tissue repair. The implants consist of a resorbable, swellable implant body which is formed from a dehydrated cross-linked biocompatible polymer. As such, the implants are capable of swelling after insertion to become anchored in place. The implants function to enhance the structural integrity of the hard tissue into which they are placed, and thereby improve the load bearing capacity of such tissues. The implants are particularly well suited for use in attaching a second (hard or soft) tissue to the first (hard) tissue into which the implant is inserted. They may also be used as a site for attachment of a surgical device such as a screw, rod or pin.</p>		

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 98/00414

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 6 A61L31/00 A61L27/00 A61F2/00

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)  
 IPC 6 A61L A61B

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 practical, 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	EP 0 700 671 A (HOWMEDICA) 13 March 1996	1-3,7, 26-33
Y	see column 8, line 5 - line 11  see column 8, line 38 - line 42 see column 10, line 6 - line 11 see column 11, line 4 - line 10 see column 11, line 23 - line 44 see column 12, line 14 - line 16 see claims; example ---	8-20, 23-25
P,Y	WO 97 22372 A (COLLAGEN CORP) 26 June 1997  see page 8, line 6 - line 10; claims see page 8, line 21 - line 26 see page 9, line 3 - line 27 ---	8-15, 17-20, 23-25
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Further documents are listed in the continuation of box C.  Patent family members are listed in annex.

° Special categories of cited documents :

<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" document published prior to the international filing date but later than the priority date claimed</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>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  <b>30 September 1998</b>	Date of mailing of the international search report  <b>13/10/1998</b>
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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	Authorized officer  <b>Cousins-Van Steen, G</b>
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INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 98/00414

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 94 01483 A (COLLAGEN CORP) 20 January 1994</p> <p>see page 2, line 1 - line 30 see page 4, line 1 - line 4 see page 14, line 14 - page 15, line 19 see page 16, line 34 - page 17, line 13 see page 36, line 1 - page 38, line 6 see page 41, line 25 - page 42, line 16 see page 44, line 15 - line 31</p>	<p>1-3,6,7, 11-15, 17-25</p>
Y	<p>EP 0 713 707 A (COLLAGEN CORP) 29 May 1996 see page 5, line 33 - line 38</p>	<p>8-16</p>
A	<p>C. CORNELL E.A. : "Multicenter Trial of Collagraft as Bone Graft Substitute" J. ORTHOP. TRAUMA, vol. 5, no. 1, 1991, pages 1-8, XP002079073 New York cited in the application</p>	<p>21,22</p>
A	<p>WO 96 39169 A (GENETICS INST ;NEW YORK SOCIETY (US)) 12 December 1996 see page 2, line 10 - line 11 see page 6 - page 8</p>	<p>30</p>
A	<p>WO 89 11301 A (KENSEY NASH CORP) 30 November 1989 see page 7, paragraph 4 see page 12, paragraph 2 - paragraph 3 see claims; figures 6-10</p>	<p>4,5</p>

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 98/00414

## 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.: 34-36  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 34-36 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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

PCT/US 98/00414

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PCT/US 98/00414

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