SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported)

March 30, 2004

MACROPORE BIOSURGERY, INC.

(Exact name of registrant as specified in Charter)

Delaware

(State or Other Jurisdiction of Incorporation)

000-32501

(Commission File Number)

33-0827593

(IRS Employer Identification No.)

6740 Top Gun Street, San Diego, California

(Address of Principal Executive Offices)

92121

(Zip Code)

Registrant's telephone number, including area code: (858) 458-0900

Item 7. Financial Statements and Exhibits

(c) Exhibits

Exhibit 99.1 Press release issued by MacroPore Biosurgery, Inc. on March 30, 2004, announcing financial results for the fiscal year and quarter ended December 31, 2003.

Item 12. Results of Operations and Financial Conditions.

MacroPore Biosurgery, Inc. reported financial results for the fiscal year and quarter ended December 31, 2003, in a press release dated March 30, 2004, attached hereto as Exhibit 99.1.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MACROPORE BIOSURGERY, INC.

Dated: March 30, 2004

By: /s/ Christopher J. Calhoun

Christopher J. Calhoun

President and Chief Executive Office

2

EXHIBIT INDEX

Exhibit Number

99.1 Press release issued by MacroPore Biosurgery, Inc., on March 30, 2004, announcing financial results for the fiscal year and quarter ended December 31, 2003.



For Immediate Release

Contact:

Tom Baker Media/U.S. Investors Tel. +1-858-458-0900 tbaker@macropore.com Stefanie Bacher European Investors Tel. +1-858-362-0365 sbacher@macropore.com

MacroPore Achieves Record Revenues of \$4.8 Million and \$14.1 Million for the Fourth Quarter and Year End on Bioresorbable Product Sales

- Annual gross margin increases to 70% in 2003 -

- Fourth quarter loss narrows by 79% -

San Diego, CA, March 30, 2004 - MacroPore Biosurgery, Inc. (Frankfurt Stock Exchange: XMP) (MacroPore) today reported financial results for the quarter and year ended December 31, 2003.

Revenues for the quarter ended December 31, 2003 were a record \$4.8 million compared to \$2.0 million for the same period in 2002, an increase of 140% year over year. During this period, spine and orthopedics (includes HYDROSORBTM) accounted for \$3.4 million, thin film (includes SurgiWrapTM) accounted for \$0.3 million, and craniomaxillofacial (CMF) accounted for \$1.1 million. Net loss for the fourth quarter of 2003 narrowed by 79% year over year to \$1.1 million, or \$0.08 net loss per basic and diluted share, compared to \$5.5 million, or \$0.39 net loss per basic and diluted share for the same period 2002.

Revenues for the year ended December 31, 2003 were a record \$14.1 million compared to \$9.2 million for the year ended December 31, 2002, an increase of 53%. During this period, spine and orthopedics accounted for \$9.9 million, thin film accounted for \$1.2 million and CMF accounted for \$3.0 million. Gross profit for the year increased to \$9.8 million in 2003, representing a 70% gross margin.

Net loss for the year ended 2003 narrowed by 28.6% to \$9.3 million, or \$0.64 net loss per basic and diluted share, compared to \$13.0 million, or \$0.91 net loss per basic and diluted share for the same period 2002. In 2003, research and development expenses were \$9.1 million and total operating expenses were \$19.5 million. The Company ended 2003 with \$14.3 million in cash and short term investments. In the first quarter of 2004 the Company received a \$5.0 million milestone payment from Medtronic and expects to receive an additional payment between \$1.0 and \$2.0 million from Medtronic in the second half of 2004 related to the sale of the CMF business.

Spine and orthopedic products were the major contributor to revenue growth in 2003. This was primarily the result of 2003 being the first full year that the products were commercially available; increased physician demand; the impact of the Medtronic Sofamor Danek distribution network and; stocking orders for product line extensions. Revenue growth in 2004 should be driven by the above factors along with the potential increase in use as a result of long-term clinical evaluations published in peer-reviewed journals demonstrating the benefits of our products over traditional metal implants.

"Our record quarter and year end revenues demonstrate our leadership position in the emerging field of bioresorbable surgical implants," said Christopher J. Calhoun, President and CEO of MacroPore. "We continued to narrow our net loss on the strength of our revenue growth and the increase in gross profit and margins which was the result of favorable economies of scale and our focus on the higher growth rate spine and orthopedic products. These favorable trends are allowing us to invest into the development of our regenerative cell technology research program and, together with our bioresorbable technology, expand our regenerative medicine business."

The tables below highlight specific financial trends between 2001 and 2003. During this period, revenues have grown at an average annual rate of 58%, during which time there has been an increase in gross margins from 57% in 2001 before an inventory provision to 65% in 2002 before an inventory provision, to 70% in 2003 in the absence of an inventory provision. Over the past three years, research and development spending has increased in absolute dollars, yet has declined from 97% of revenue in 2001 to 64% of revenue in 2003. Total operating expenses specifically have declined from 260% of revenue in 2001 to 138% of revenue in 2003. Net loss has also declined as a percentage of sales during this period, from 198% in 2001 to 66% in 2003.

Selected Financial Highlights (in U.S. dollars)

	For the Years Ended December 31,						
	2001	2002	2003				
Total Revenues	5,648,000	9,166,000	14,088,000				
% increase over prior year		62%					
Cost of revenue	2,401,000	3,169,000	4,244,000				
% increase	43%	35%	30%				
Inventory provision	1,750,000	1,395,000	_				
% of revenue	31%	31% 15%					
Gross profit	1,497,000	4,602,000	9,844,000				
Gross margin	27%	50%	70%				
Research and development	5,487,000	5,605,000	9,071,000				

% of revenue	97%	61%	64%
Sales and marketing	4,493,000	3,987,000	4,417,000
% of revenue	80%	43%	31%
General and administrative	3,578,000	3,952,000	4,581,000
% of revenue	63%	43%	33%
Stock based compensation	1,123,000	1,287,000	985,000
% of revenue	20%	14%	7%
Equipment impairment/In process R&D	_	2,666,000	_
% of revenue		29%	
Restructuring expense	_	_	451,000
% of revenue			3%
Total operating expenses	14,681,000	17,497,000	19,505,000
% of revenue	260%	191%	138%
% decrease over prior year		19%	11%
Net loss	(11,207,000)	(13,003,000)	(9,283,000)
% of revenue	-198%	-142%	-66%

In 2004, MacroPore projects continued revenue growth of approximately 24% to 38%; an increase in gross profit and gross margin; and a reduction in net loss before the anticipated gain on sale of assets. The Company expects revenues in 2004 to be weighted toward the second half, in line with historical sales patterns. Additionally, the Company expects to realize consecutive year over year revenue growth for each quarter in 2004, building on the current trend of seven consecutive quarters of year over year revenue growth.

Operationally, the Company's key objectives in 2004 are to drive continued revenue growth of its bioresorbable products by enhancing physician education about the benefits of bioresorbable products and expanding the

product pipeline. For our regenerative cell technology program, the Company intends to move closer to commercialization by focusing on preclinical data acquisition and accelerating the development of its autologous-tissue processing system.

SurgiWrap™ Update

In December 2003 we agreed to sell our bioresorbable thin film implant product line to Medicis Ventures Management GmbH. MacroPore remains focused on completing the deal, however, the close of the transaction has been delayed and the company at this time can provide no assurances that the sale will be consummated. During the interim period, MacroPore will continue its ongoing sales, marketing and development efforts for this business unit, which includes expansion of our independent distribution network throughout the United States and Europe and Asia.

2004 Guidance

The Company's 2004 financial guidance is outlined below:

- Total revenues between \$17.5 and \$19.5 million
 - Spine and orthopedic revenues between \$15.0 to \$16.0 million
 - Thin film revenues between \$1.5 to \$2.5 million
 - Grants and other sources up to \$1.0 million
- Research and development expenses between \$12.0 to \$14.0 million
 - \$7.8 to \$8.8 million for regenerative cell technology
 - \$4.2 to \$5.2 million for bioresorbable technology

2004 Anticipated Milestones

- Second quarter: Launch cervical graft containment plate
- **Second quarter:** Receive award for \$750,000 for Phase II of an NIH SBIR grant for regenerative cell technology research effort with U.C.L.A. studying the preclinical use of regenerative cells in repairing damaged heart muscle resulting from heart attack
- Second quarter: Announce pre-clinical study results using adipose-derived regenerative cell technology for repair of cardiac muscle
- Second half: Enter into a commercialization agreement for SurgiWrap™ for the territory of Japan
- Second Half: Expand HYDROSORB™ family of bioresorbable spine and orthopedic products in Europe
- Second Half: Receive CE Mark approval for HYDROSORB™ Boomerang® for lumbar interbody fusion

- Second Half: Receive \$1.0 to \$2.0 million milestone payment from Medtronic on the transfer of Know How related to the CMF sale, allowing recognition of approximately \$8.0 to \$9.0 million on the gain from the sale of assets, of which \$7.5 million is held on balance sheet as deferred gain on sale of assets
- Second half: Finalize the engineering design of MacroPore's autologous-tissue harvesting and processing medical system
- · Year end: Achieve record revenues and, specifically, record spine and orthopedic product revenues

2003 Highlights

- Entered agreement to sell SurgiWrap™: MacroPore announced its intent to sell the SurgiWrap™ product line to Medicis Ventures GmbH
- European marketing claims for HYDROSORB™: CE Mark approval was received for the HYDROSORB™ Telamon® and HYDROSORB™
 Mesh resorbable lumbar spine cages in Europe
- **Expanded HYDROSORB**[™] **product line:** Two new products were added to the HYDROSORB family of bioresorbable spine and orthopedic products
- **Regenerative cell technology pre-clinical study:** A pre-clinical study was initiated to study the effect of adipose-derived regenerative cells on damaged muscle tissue resulting from heart attack
- **Expanded thin film marketing claims:** A key marketing claim was added to SurgiWrap™ for minimizing tissue attachment to the device and CardioWrap™ was cleared for the repair of the pericardium
- Expanded board of directors: E. Carmack Holmes, MD, Surgeon-in-Chief of the University of California Los Angeles Medical Center was appointed to MacroPore's board of directors
- **Patent on bioresorbable thin films:** MacroPore was awarded a patent by the U.S. Patent and Trademark Office (U.S. Patent No. 6,531,146) for the Company's bioresorbable thin film for control of postsurgical adhesions

Conference call information

MacroPore Biosurgery will host a conference call today at 4:30 pm CEST (Central Eastern Summer Time) or 9:30 am EST (Eastern Standard Time), to discuss the results. This conference call may be accessed from the investor relations section of the Company's website, www.macropore.com. The audio replay will be archived for 24 hours following the call and may be accessed by dialing +49 (0) 69 58 99 90 568 (PIN: 132191#).

About MacroPore Biosurgery, Inc.

MacroPore Biosurgery (Frankfurt: XMP) (Reuters: MACP.DE) is focused on the discovery and development of regenerative medicine technologies. We are committed to improving the practice of medicine by creating innovative products that address spine and orthopedic bone repair and cardiovascular tissue repair. Our surgical implants, which represent one of the latest advancements in spine and orthopedic medicine, are manufactured by us and distributed exclusively through Medtronic Sofamor Danek. We are conducting research and development for an autologous, homologous-use, cell-based technology for the regeneration and repair of damaged tissues throughout the body. We are currently targeting the repair of cardiovascular tissues that are damaged after a myocardial infarction. For further information please visit our web site http://www.macropore.com.

Cautionary Statement Regarding Forward-Looking Statements

This press release may include forward-looking statements regarding events and trends which may affect MacroPore Biosurgery's future operating results and financial position. Such statements are subject to risks and uncertainties that could cause MacroPore Biosurgery's actual results and financial position to differ materially. These risks and uncertainties are described (under the heading "Risk Factors") in our 2003 Form 10-K annual report for the year ended December 31, 2003, which is available on our web site. MacroPore Biosurgery assumes no responsibility to publicly release the results of any revision of forward-looking statements to reflect events, trends or circumstances after the date they are made.

MACROPORE BIOSURGERY, INC. CONSOLIDATED BALANCE SHEETS

	As of December 31,				
	2003		2002		
Assets					
Current assets:					
Cash and cash equivalents	\$ 2,820,000	\$	5,108,000		
Short-term investments, available-for-sale	11,448,000		19,875,000		
Accounts receivable, net of allowance for doubtful accounts of \$62,000 and \$50,000 in 2003 and 2002,					
respectively	1,291,000		1,238,000		
Inventories	831,000		1,150,000		
Other current assets	526,000		843,000		
Total current assets	16,916,000		28,214,000		

Property and equipment, net	3,822,000	3,626,000
Other assets	332,000	562,000
Goodwill and intangibles, net	7,019,000	 6,917,000
Total assets	\$ 28,089,000	\$ 39,319,000
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	\$ 3,767,000	\$ 2,521,000
Current portion of long-term obligations	 717,000	 410,000
Total current liabilities	4,484,000	2,931,000
Deferred gain on sale of assets, related party	7,539,000	9,623,000
Long-term obligations, less current portion	1,157,000	770,000
Total liabilities	13,180,000	13,324,000
Commitments		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 5,000,000 shares authorized; -0- shares issued and outstanding in 2003 and 2002	_	_
Common stock, \$0.001 par value; 95,000,000 shares authorized; 16,777,644 and 16,646,664 shares issued		
and 14,195,062 and 14,527,681 shares outstanding in 2003 and 2002, respectively	17,000	17,000
Additional paid-in capital	74,698,000	74,730,000
Unearned compensation	(109,000)	(1,057,000)
Accumulated deficit	(49,385,000)	(40,102,000)
Treasury stock, at cost	(9,362,000)	(7,752,000)
Treasury stock receivable	(976,000)	_
Accumulated other comprehensive income	 26,000	159,000
Total stockholders' equity	 14,909,000	25,995,000
Total liabilities and stockholders' equity	\$ 28,089,000	\$ 39,319,000

MACROPORE BIOSURGERY, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)

	For the Years Ended December 31,					
		2003		2002		2001
Revenues:						
Sales to related party	\$	12,893,000	\$	8,605,000	\$	5,547,000
Sales to third parties		1,195,000		561,000		101,000
		,,				,,,,,,
		14,088,000		9,166,000		5,648,000
Cost of revenues:						
Cost of revenues (including stock based compensation expense of \$12,000, \$14,000, and						
\$14,000 for the years ended December 31, 2003, 2002, and 2001, respectively)		4,244,000		3,169,000		2,401,000
Inventory provision		_		1,395,000		1,750,000
Gross profit		9,844,000		4,602,000		1,497,000
Operating expenses:						
Research and development, excluding stock based compensation expense of \$78,000,						
\$211,000 and \$111,000 for the years ended December 31, 2003, 2002, and 2001,						
respectively		9,071,000		5,605,000		5,487,000
Sales and marketing, excluding stock based compensation expense of \$70,000, \$134,000						
and \$176,000 for the years ended December 31, 2003, 2002, and 2001, respectively		4,417,000		3,987,000		4,493,000
General and administrative, excluding stock based compensation expense of \$837,000,						
\$942,000 and \$836,000 for the years ended December 31, 2003, 2002, and 2001,						
respectively		4,581,000		3,952,000		3,578,000
Stock based compensation (excluding cost of revenues stock based compensation)		985,000		1,287,000		1,123,000
In-process research and development		_		2,296,000		_
Restructuring charge		451,000		_		
Equipment impairment charge		<u> </u>		370,000		<u> </u>
Total operating expenses		19,505,000		17,497,000		14,681,000

Other income (expense):					
Interest income		417,000	1,037,000		2,249,000
Interest and other expenses, net		(39,000)	(263,000)		(168,000)
Equity loss in investment			(882,000)		(104,000)
Net loss		(9,283,000)	(13,003,000)		(11,207,000)
Other comprehensive income (loss) - unrealized holding (loss) gain		(133,000)	(191,000)		170,000
Comprehensive loss	\$	(9,416,000)	\$ (13,194,000)	\$	(11,037,000)
Basic and diluted net loss per share	\$	(0.64)	\$ (0.91)	\$	(0.75)
Shares used in calculating basic and diluted net loss per share		14,555,047	14,274,254		14,926,107
	_		 	_	