

REPORTING 0

PERSON 8. SHARED DISPOSITIVE POWER
WITH 2,450,594 (See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
2,450,594 (See Item 4)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

----- |_ |

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)
11.8%

12. TYPE OF REPORTING PERSON*
PN

*SEE INSTRUCTIONS BEFORE FILLING OUT!

CUSIP No. 670704105 13G Page 3 of 10 Pages

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)
William Blair Capital Partners VII, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

----- (a) |_ |
(b) |_ |

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
Delaware

NUMBER OF 5. SOLE VOTING POWER
SHARES 0

BENEFICIALLY 6. SHARED VOTING POWER
OWNED BY 2,450,594 (See Item 4)

EACH 7. SOLE DISPOSITIVE POWER
REPORTING 0

PERSON 8. SHARED DISPOSITIVE POWER
WITH 2,450,594 (See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
2,450,594 (See Item 4)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

----- |_ |

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

11.8%

12. TYPE OF REPORTING PERSON*

OO

*SEE INSTRUCTIONS BEFORE FILLING OUT!

CUSIP No. 670704105

13G

Page 4 of 10 Pages

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

William Blair Capital Management VII, L.L.C.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF 5. SOLE VOTING POWER
SHARES 0

BENEFICIALLY 6. SHARED VOTING POWER
OWNED BY 2,450,594 (See Item 4)

EACH 7. SOLE DISPOSITIVE POWER
REPORTING 0

PERSON 8. SHARED DISPOSITIVE POWER
WITH 2,450,594 (See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

2,450,594 (See Item 4)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

11.8%

12. TYPE OF REPORTING PERSON*

PN

*SEE INSTRUCTIONS BEFORE FILLING OUT!

CUSIP No. 670704105

13G

Page 5 of 10 Pages

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

William Blair Capital Management VII, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)
(b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF 5. SOLE VOTING POWER
SHARES 0

BENEFICIALLY 6. SHARED VOTING POWER
OWNED BY 2,450,594 (See Item 4)

EACH 7. SOLE DISPOSITIVE POWER
REPORTING 0

PERSON 8. SHARED DISPOSITIVE POWER
WITH 2,450,594 (See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

2,450,594 (See Item 4)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

11.8%

12. TYPE OF REPORTING PERSON*

PN

*SEE INSTRUCTIONS BEFORE FILLING OUT!

SCHEDULE 13G

Item 1(a). Name of Issuer:

NuVasive, Inc. (the "Company")

Item 1(b). Address of Issuer's Principal Executive Offices:

10065 Old Grove Road
San Diego, CA 92131

Item 2(a). Name of Persons Filing:

This statement is filed jointly by each of the following Persons pursuant to Rule 13d-1(k) promulgated by the Securities and Exchange Commission ("SEC") under Section 13 of the Securities Exchange Act of 1934, as amended (the "Act"): (i) William Blair Capital Partners VII QP, L.P., a Delaware limited partnership (the "Fund"), by virtue of its direct beneficial ownership of Common Stock and (ii) William Blair Capital Partners VII, L.P., a Delaware limited partnership (the "Fund"), by virtue of its direct beneficial ownership of Common Stock and (iii) William Blair Capital Management VII, L.L.C. ("WBCPCO," together with the Fund, each a "Reporting Person" and collectively,

"Reporting Persons"), a Delaware limited liability company, by virtue of its being the general partner of the Fund. (iv) William Blair Capital Management VII, L.P. ("WBCPCO," together with the Fund, each a "Reporting Person" and collectively, "Reporting Persons"), a Delaware limited liability company, by virtue of its being the general partner of the Fund. By virtue of being members of the Board of Managers of WBCPCO (the "Board"), Timothy Burke, John Ettelson, Robert D. Blank, David G. Chandler, Arda Minocherhomjee, Timothy M. Murray, and Robert Healy may be deemed to possess indirect beneficial ownership of the Common Stock, but such beneficial ownership is disclaimed. Only the Board, acting upon the consent of a majority of the members of the Board at any meeting of the Board where a quorum is present, possesses the right to vote, direct the vote, dispose or direct the disposition of the Common Stock. No individual has sole power to vote, direct the vote, dispose or direct the disposition of the Common Stock. The Reporting Persons have entered into an Agreement Related to the Joint Filing of Schedule 13G, dated February 14, 2005, a copy of which is filed with this Schedule 13G as Exhibit A, pursuant to which the Reporting Persons have agreed to file this statement jointly in accordance with the provisions of Rule 13d-1(k) under the Act. Information with respect to each of the Reporting Persons is given solely by such Reporting Person, and no Reporting Person assumes responsibility for the accuracy or completeness of information provided by another Reporting Person. By their signature on this statement, each of the Reporting Persons agrees that this statement is filed on behalf of such Reporting Person. The Reporting Persons may be deemed to constitute a "group" for purposes of Section 13(d)(3) of the Act. The Reporting Persons expressly disclaim that they have agreed to act as a group other than as described in this statement.

Item 2(b). Address of Principal Business Office or, if none, Residence:

The address of the principal business office of each of the Reporting Persons is 222 West Adams Street, Chicago, Illinois 60606.

Item 2(c). Citizenship:

The Fund is a Delaware limited partnership and WBCPCO is a Delaware limited liability company.

Page 6 of 10 Pages

Item 2(d). Title of Class of Securities:

Common Stock, par value \$0.001 per share ("Common Stock").

Item 2(e). CUSIP No.:

670704105

Item 3. If this statement is filed pursuant to Rules 13d-1(b) or 13d-2(b) or (c), check whether the person filing is a:

Not Applicable.

Item 4. Ownership (as of December 31, 2004):

As of December 31, 2004, the Fund was the registered owner Of 2,450,594 shares of Common Stock or approximately 11.8% of the total number of shares of Common Stock outstanding as of such date (based upon information provided by the Company). The Fund has 915,217 warrants @ \$.63. By virtue of the relationship between the Fund and WBCPCO described in Item 2(a), WBCPCO may be deemed to possess indirect beneficial ownership of and shares the power to vote or direct the vote of the shares of Common Stock beneficially owned by the Fund. WBCPCO disclaims beneficial ownership of the shares of Common Stock owned by the Fund. The filing of this statement by WBCPCO shall not be construed as an admission that they are, for the purpose of Section 13(d) or Section 13(g) of the Act, the beneficial owner of any securities covered by this statement.

Item 5. Ownership of Five Percent or Less of a Class:

Not Applicable.

Item 6. Ownership of More Than Five Percent on Behalf of Another Person:

Not Applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company:

Not Applicable.

Item 8. Identification and Classification of Members of the Group:

Not Applicable.

Item 9. Notice of Dissolution of a Group:

Not Applicable.

Item 10. Certification:

Not Applicable.

SIGNATURE

After reasonable inquiry and to the best of our knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Date: February 14, 2005

WILLIAM BLAIR CAPITAL PARTNERS VII QP, L.P.

By: William Blair Capital Management VII, L.P.
Its: General Partner

By: William Blair Capital Management VII, L.L.C.
Its: General Partner

By: /s/ David G. Chandler

Title: Managing Director

WILLIAM BLAIR CAPITAL PARTNERS VII, L.P.

By: William Blair Capital Management VII, L.P.
Its: General Partner

By: William Blair Capital Management VII, L.L.C.
Its: General Partner

By: /s/ David G. Chandler

Title: Managing Director

EXHIBIT A

William Blair Capital Partners VII QP, L.P., William Blair Capital Partners VII, L.P., William Blair Capital Management VII, L.L.C. and William Blair Capital Management VII, L.P. hereby agree that the Statement on Schedule 13G to which this agreement is attached as an exhibit, as well as all future amendments to such Statement, shall be filed jointly on behalf of each of them. This agreement is intended to satisfy the requirements of Rule 13d-1(k) (1) (iii) under the Securities Exchange Act of 1934, as amended.

Date: February 14, 2005

WILLIAM BLAIR CAPITAL PARTNERS VII QP, L.P.

By: William Blair Capital Management VII, L.P.
Its: General Partner

By: William Blair Capital Management VII, L.L.C.
Its: General Partner

By: /s/ David G. Chandler

Title: Managing Director

WILLIAM BLAIR CAPITAL PARTNERS VII, L.P.

By: William Blair Capital Management VII, L.P.
Its: General Partner

By: William Blair Capital Management VII, L.L.C.
Its: General Partner

By: /s/ David G. Chandler

Title: Managing Director