

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

Schedule 13D

Under the Securities Exchange Act of 1934

(Amendment No. 5)

Integra LifeSciences Holdings Corporation  
(Name of Issuer)

Common Stock Par Value \$.01  
(Title of Class of Securities)

457985208  
(CUSIP Number)

Stuart M. Essig  
c/o Integra LifeSciences Holdings Corporation  
311 Enterprise Drive  
Plainsboro, New Jersey 08536

With a copy to:

Jonathan B. Levy  
Lindquist & Vennum P.L.L.P.  
4200 IDS Center  
Minneapolis, Minnesota 55402  
(612) 371-3211

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

January 4, 2008  
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13(d)-1(g), check the following box. [ ]

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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CUSIP No. 457985208  
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1 Names of reporting persons  
S.S. or I.R.S. Identification No. of above persons

Stuart M. Essig  
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2 Check the appropriate box if a member of a group  
(see instructions) (a) [ ]  
(b) [ ]  
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3 SEC use only  
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4 Source of funds (see instructions)

PF

5 Check if disclosure of legal proceedings is required pursuant to items 2(d) or 2(e) [ ]

6 Citizenship or place of organization

United States

Number of 7 Sole voting power

shares 2,648,022\*

beneficially

8 Shared voting power

owned by

0

each

9 Sole dispositive power

reporting

2,648,022\*

person with

10 Shared dispositive power

0

11 Aggregate amount beneficially owned by each reporting person

2,648,022\*

12 Check box if the aggregate amount in row (11) excludes certain shares [ ]

(See instructions)

13 Percent of class represented by amount in row (11)

10.0%

14 Type of reporting person (See instructions)

IN

\* Includes 1,393,294 shares of common stock underlying options to purchase common stock. Options to purchase 851,106 shares of common stock are exercisable as of, or within 60 days of, January 4, 2008. Although shares underlying all options held by Mr. Essig are included in the amounts set forth on lines 7, 9 and 11, Mr. Essig disclaims beneficial ownership of the 542,188 shares of common stock underlying options not exercisable as of, or within 60 days of, January 4, 2008.

This Amendment No. 5 ("Amendment No. 5") amends and supplements the statement on Schedule 13D initially filed on November 14, 2005 (the "Original Filing" and, as amended, the "Schedule 13D") by Stuart M. Essig with respect to Common Stock, \$.01 par value (the "common stock"), of Integra LifeSciences Holdings Corporation (the "Company"). Capitalized terms used and not defined in this Amendment No. 5 have the meanings set forth in the Schedule 13D.

Item 5. Interest in Securities of Issuer

Item 5 of the Schedule 13D is hereby amended and restated in its entirety as follows:

(a) Aggregate number and percentage of class beneficially owned:

As of January 4, 2008, Mr. Essig may be deemed to be the beneficial owner of 2,648,022 shares of common stock. This ownership consists of the following:

(i) 1,254,728 shares of common stock held directly by Mr. Essig, including 500,000 shares of common stock issuable on March 4, 2008; and

(ii) 1,393,294 shares of common stock underlying options to purchase common stock (of which options to purchase 851,106 shares of common stock are exercisable as of, or within 60 days of, January 4, 2008).

Based on calculations made in accordance with Rule 13d-3(d), Mr. Essig may be deemed the beneficial owner of 10.0% of the outstanding shares of common stock. This calculation is based on 26,363,053 shares of common stock outstanding as of November 5, 2007.

The above calculations include 542,188 shares of common stock underlying options held by Mr. Essig that are not exercisable as of, or within 60 days of, January 4, 2008. Mr. Essig disclaims beneficial ownership of these shares. Excluding these shares, Mr. Essig would be deemed the beneficial owner of 2,105,834 shares of common stock (or 7.9% of the outstanding shares of common stock).

(b) Voting and Dispositive Power:

Mr. Essig has sole voting and dispositive power over 2,648,022 shares that may be deemed to be beneficially owned by him as of January 4, 2008. This consists of the following (i) the 1,254,728 shares of common stock held directly by Mr. Essig including 500,000 shares of common stock issuable on March 4, 2008 and (ii) 1,393,294 shares of common stock underlying options to purchase common stock, of which Mr. Essig disclaims beneficial ownership with respect to 542,188 shares of common stock as set forth in Item 5(a).

(c) Transactions within the past 60 days: On December 18, 2007, the Company granted Mr. Essig an option to purchase 200,000 shares of common stock. Of the 200,000 shares of common stock subject to the option grant, 50,000 shares are exercisable on December 18, 2008, and the remaining 150,000 shares vest each month in equal installments over the next thirty six months.

- (d) Right to Direct the Receipt of Dividends: Not applicable.
- (e) Last Date on Which Reporting Person Ceased to be a 5% Holder: Not Applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with  
Respect to Securities of the Issuer.

Not applicable.

Signature

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

Dated: January 4, 2008

Name /s/ Stuart M. Essig

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