

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

Schedule 13D

Under the Securities Exchange Act of 1934

(Amendment No. 1)

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) 371-5211

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

January 3, 2006  
(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).

-----  
CUSIP No. 457985208  
-----

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

Stuart M. Essig  
-----

2 Check the appropriate box if a member of a group  
(see instructions) (a) [ ]  
(b) [ ]

3 SEC use only

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 1,947,326\*

beneficially 8 Shared voting power

owned by 54,358

each 9 Sole dispositive power

reporting 1,947,326\*

person with 10 Shared dispositive power

54,358

11 Aggregate amount beneficially owned by each reporting person

2,001,684\*

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)

6.9%

14 Type of reporting person (See instructions)

IN

\* Includes 1,031,943 shares of common stock underlying options to purchase common stock. Options to purchase 520,231 shares of common stock are exercisable as of, or within 60 days of, January 3, 2006. 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 511,712 shares of common stock underlying options not exercisable as of, or within 60 days of, January 3, 2006.

This Amendment No. 1 ("Amendment No. 1") 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. 1 have the meanings set forth in the Schedule 13D.

Item 5. Interest in Securities of Issuer

Item 5 of the Original Filing is hereby amended and restated in its entirety as follows:

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

As of January 3, 2006, Mr. Essig may be deemed to be the beneficial owner of 2,001,684 shares of common stock. This ownership consists of the following:

(i) 915,383 shares of common stock held directly by Mr. Essig;

(ii) 54,358 shares of common stock held by the Essig Enright Family Foundation (the "Foundation"), of which Mr. Essig and his wife are two of the three trustees; and

(iii) 1,031,943 shares of common stock underlying options to purchase common stock (of which options to purchase 520,231 shares of common stock are exercisable as of, or within 60 days of, January 3, 2006).

Based on calculations made in accordance with Rule 13d-3(d), Mr. Essig may be deemed the beneficial owner of 6.9% of the outstanding shares of common stock. This calculation is based on 28,170,091 shares of common stock outstanding and includes options to purchase 511,712 shares of common stock held by Mr. Essig that are not exercisable as of, or within 60 days of, January 3, 2006.

Mr. Essig disclaims beneficial ownership of the 511,712 shares of common stock underlying options not exercisable as of, or within 60 days of, January 3, 2006. Excluding these shares, Mr. Essig would be deemed the beneficial owner of 1,489,972 shares of common stock (or 5.2% of the outstanding shares of common stock).

(b) Voting and Dispositive Power:

Mr. Essig has sole voting and dispositive power over 1,947,326 shares that may be deemed to be beneficially owned by him as of January 3, 2006. This consists of the following (i) the 915,383 shares of common stock held directly by Mr. Essig and (ii) 1,031,943 shares of common stock underlying options to purchase common stock, of which Mr. Essig disclaims beneficial ownership with respect to 511,712 shares of common stock as set forth in Item 5(a).

Mr. Essig may be deemed to have shared voting and dispositive power over the 54,358 shares of common stock held by the Foundation.

(c) Transactions within the past 60 days:

On December 19, 2005, Mr. Essig was granted options to purchased 200,000 shares of common stock. The exercise price of these options is \$35.57 per share. One-fourth of these shares become exercisable upon the one-year anniversary of the grant, and the remaining shares become exercisable monthly thereafter over the next 36 months. The options expire on December 19, 2015.

On January 3, 2006, the Company delivered 750,000 shares of common stock to Mr. Essig, and Mr. Essig subsequently sold 340,000 of such shares in a privately negotiated transaction on such date at a price of \$34.70 per share pursuant to a previously disclosed Rule 10b5-1 plan. The 750,000 shares of common stock were issued to Mr. Essig pursuant to an award of Restricted Units made to him in 2000. See Item 6 below for a description of the terms of these Restricted Units and the Rule 10b5-1 plan.

(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.

Item 6 of the Original Filing is hereby amended and restated in its entirety as follows:

2004 Employment Agreement and Related Agreements

In connection with a Second Amended and Restated Employment Agreement that Mr. Essig and the Company entered into in July 2004, the Company granted Mr. Essig a non-qualified stock option to purchase 250,000 shares of common stock and an award of fully vested 750,000 restricted units in the form of contract stock ("Restricted Units"). Under the employment agreement, Mr. Essig is also entitled to an annual option grant of between 100,000 and 200,000 shares as determined by the Company's compensation committee. The exercise price of each option grant is at fair market value on the date of grant, and the option term is ten years. Each option grant vests in accordance with the following schedule subject to Mr. Essig's continued employment: one-fourth of the shares become exercisable upon the one-year anniversary of the grant, and the remaining shares vest monthly with respect to 1/36th on the first business day of each following month. The option grants contain typical acceleration provisions in the event of a change in control of the Company, termination of employment without cause by the Company or termination of employment by Mr. Essig for a good reason. The Second Amended and Restated Employment Agreement, the Stock Option Grant and Agreement relating to the option to purchase 250,000 shares of common stock and the form of Stock Option Grant and Agreement for Mr. Essig's annual option grants are set forth as Exhibits 7(a), 7(f) and 7(h), respectively, to the Original Filing and incorporated by reference herein.

Each Restricted Unit represents the right to receive one share of the Company's common stock. The shares of the Company's common stock underlying the Restricted Units ("Unit Shares")

generally shall be delivered to Mr. Essig on the first business day following his termination of employment or retirement, or earlier if a change in control of the Company occurs or Mr. Essig becomes subject to taxation on any Restricted Units before the scheduled delivery date (or deferral date, if applicable). However, unless previously delivered, if Mr. Essig's employment with the Company is terminated for cause or Mr. Essig voluntarily leaves his employment with the Company prior to December 31, 2009 (other than for good reasons or due to disability), then the Unit Shares will not be distributed to Mr. Essig until the first business day of the calendar year 2017. Additionally, Mr. Essig has a one-time right to defer the delivery of the Unit Shares so long as such election is (a) made at least 12 months prior to the otherwise applicable delivery date and (b) the deferral delivery date is at least five years beyond the scheduled delivery date, but not beyond June 30, 2029. The Contract Stock/Restricted Units Agreement relating to this grant is set forth as Exhibit 7(g) to the Original Filing and incorporated by reference herein.

#### 2000 Restricted Unit Issuance

Mr. Essig received a Restricted Unit award in 2000 that entitled him to receive an aggregate 1,250,000 shares of common stock. Of the 1,250,000 shares, 750,000 shares were delivered on January 3, 2006 and the remaining 500,000 shares of common stock are deliverable on March 4, 2008. Of the 750,000 shares that were delivered on January 3, 2006, 340,000 shares were subsequently sold by Mr. Essig on that date pursuant to a previously disclosed Rule 10b5-1 plan. The Restricted Units Agreement relating to this grant is set forth as Exhibit 7(e) to the Original Filing and incorporated by reference herein.

#### Registration Rights

The Company has also granted Mr. Essig registration rights with respect to the shares of common stock underlying his option and Restricted Unit grants. These registration rights provisions are set forth as Exhibits 7(i), 7(j) and 7(k) to the Original Filing and incorporated by reference herein.

#### Sale Plans Under Rule 10b5-1

Mr. Essig entered into two sales plans pursuant to Rule 10b5-1 under the Act with a registered broker-dealer. One plan provided for the sale of 340,000 shares of the 750,000 shares of common stock underlying Restricted Units and issued to Mr. Essig on January 3, 2006. This plan was entered into to enable Mr. Essig to obtain proceeds to cover tax liabilities associated with his receipt of the 750,000 shares of common stock. The other plan provides for the sale of up to 200,000 shares of common stock underlying options (and the exercise of the related options) at specified prices. On January 3, 2006, Mr. Essig sold 340,000 shares pursuant to the first 10b5-1 plan described above.

Variable Forward Sale Agreement

Mr. Essig has entered into a variable forward sale agreement with Credit Suisse First Boston Capital LLC ("CS First Boston") pursuant to which CS First Boston may sell 500,000 shares of common stock owned by Mr. Essig. The agreement requires Mr. Essig to deliver to CS First Boston on March 28, 2013 between 264,550 and 500,000 shares of common stock or the cash equivalent of such shares at the election of Mr. Essig. The amount of shares or cash equivalent will depend upon the average price of the common stock in the 20 trading days prior to and including the settlement date. In connection with this agreement, Mr. Essig pledged 500,000 shares of common stock to CS First Boston. Mr. Essig retains voting power with respect to these shares pending the settlement of this contract.

Signature

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

Dated: January 4, 2006

Name /s/ Stuart M. Essig