SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

INTEGRA LIFESCIENCES HOLDINGS CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization) 51-0317849

(I.R.S. Employer Identification No.)

311 ENTERPRISE DRIVE PLAINSBORO, NEW JERSEY 08536

(Address of principal executive offices)

INTEGRA LIFESCIENCES HOLDINGS CORPORATION SECOND AMENDED AND RESTATED 2003 EQUITY INCENTIVE PLAN

(full title of the plan)

John B. Henneman, III Executive Vice President, Finance and Administration, and Chief Financial Officer Integra LifeSciences Holdings Corporation 311 Enterprise Drive Plainsboro, New Jersey 08536 (609) 275-0500

Copy to: Thomas E. Keim, Jr., Esq. Latham & Watkins LLP 233 South Wacker Drive Suite 5800 Chicago, Illinois 60606 (312) 876-7700 Counsel to Registrant

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer $\sqrt{}$

Accelerated filer o

Non-accelerated filer o (do not check if a smaller reporting company) Smaller reporting company o

CALCULATION OF REGISTRATION FEE

		Proposed Maximum	Proposed Maximum	
Title of Each Class of	Amount to be	Offering Price	Aggregate	Amount of
Securities to be Registered	Registered (1)	Per Share (2)	Offering Price	Registration Fee
Common Stock, par value \$0.01 per share	1,750,000 shares	\$41.17	\$72,047,500	\$5,136.99

(1) This Registration Statement registers 1,750,000 shares of common stock, par value \$0.01 per share (the "Common Stock"), of Integra LifeSciences Holdings Corporation (the "Company") for issuance pursuant to the Integra LifeSciences Holdings Corporation Second Amended and Restated 2003 Equity Incentive Plan (the "Plan"), an employee benefit plan, in addition to the 750,000 shares of Common Stock which were registered under the Plan on Form S-8 (File No. 333-155263), the 1,500,000 shares of Common Stock which were registered under the Plan on Form S-8 (File No. 333-127488) and the 2,500,000 shares of Common Stock which were registered under the Plan on Form S-8 (File No. 333-109042) filed with the Securities Exchange Commission on November 10, 2008, August 12, 2005 and September 23, 2003, respectively (together, the "Prior Forms S-8"). The contents of the Prior Forms S-8 are incorporated into this Registration Statement by reference. The total number of shares of Common Stock registered under this Registration Statement and under the Prior Forms S-8 equals 6,500,000 shares. In addition, pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement also covers any additional shares of the Company's Common Stock that may become issuable under the Plan by reason of any substitutions or adjustments to shares to account for any change in corporate capitalization, such as a merger, consolidation, reorganization, recapitalization, separation, partial or complete liquidation, stock dividend, stock split, reverse stock split, split up, spin-off, or

- other distribution of stock or property of the Company, combination or exchange of shares of Common Stock, dividend in kind, or other like change in capital structure.
- (2) Pursuant to Rule 457(h) of the Securities Act, the Proposed Maximum Offering Price is estimated solely for the purpose of calculating the registration fee and is based on the average of the high and low market prices for the Common Stock reported in the NASDAQ Global Market on October 22, 2010 (\$41.17).

PART I

Item 1. Plan Information

Not required to be filed with this Registration Statement.

Item 2. Registrant Information and Employee Plan Annual Information

Not required to be filed with this Registration Statement.

PART II

Item 3. Incorporation of Documents by Reference

The following documents filed with the Securities and Exchange Commission (the "Commission") by the Company are incorporated as of their respective dates in this Registration Statement by reference:

- (a) the Company's Annual Report on Form 10-K for the year ended December 31, 2009, filed on March 1, 2010.
- (b) all other reports filed by the Company with the Commission pursuant to Section 13(a) or 15(d) of the Exchange Act since December 31, 2009.
- (c) the description of the Company's common stock contained in the Company's Registration Statement on Form S-3/A (Registration No. 333-63176), which became effective on August 7, 2001, including any amendments or reports filed for the purpose of updating such description.

All documents subsequently filed by the Company or with respect to the Plan pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from their dates of filing; except as to any portion of any current report furnished under Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this Registration Statement is deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any subsequently filed document which also is or is deemed to be incorporated by reference in this Registration Statement modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Under no circumstances will any information filed under Items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 4. Description of Securities

Not required to be filed with this Registration Statement.

Item 5. Interests of Named Experts and Counsel

Not applicable.

Item 6. Indemnification of Directors and Officers

Not required to be filed with this Registration Statement.

Item 7. Exemption from Registration Claimed

Not applicable.

Item 8. Exhibits

Exhibit Number	Description of Exhibit
3.1	Amended and Restated Certificate of Incorporation of the Company (Incorporated by reference to Exhibit 3.1(a) to the Company's Annual Report on Form 10-K for the year ended December 31, 2005)
3.2	Amended and Restated Bylaws of the Company (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on November 3, 2009)
4.1	Integra LifeSciences Holdings Corporation Second Amended and Restated 2003 Equity Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 21, 2010)
5.1	Opinion of Latham & Watkins LLP+
23.1	Consent of Latham & Watkins LLP (included in Exhibit 5.1)+
23.2	Consent of PricewaterhouseCoopers LLP+
24.1	Power of Attorney (included in the signature page hereto)+

+ Filed herewith

Item 9. Undertakings

Not required to be filed with this Registration Statement.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Plainsboro, New Jersey, on October 29, 2010.

INTEGRA LIFESCIENCES HOLDINGS CORPORATION

By: /s/ Stuart M. Essig
Stuart M. Essig
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below, hereby constitutes and appoints Stuart M. Essig and John B. Henneman, III and each acting alone, his true and lawful attorneys-in-fact and agents, with full power of resubstitution and substitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments or supplements to this Registration Statement and to file the same with all exhibits thereto and other documents in connection therewith, with the Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing necessary or appropriate to be done with respect to this Registration Statement or any amendments or supplements hereto in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in their respective capacities with Integra LifeSciences Holdings Corporation and on the dates indicated.

Signatures	Titles	Date
/s/ Stuart M. Essig Stuart M. Essig	President, Chief Executive Officer and Director (Principal Executive Officer)	October 29, 2010
/s/ John B. Henneman, III John B. Henneman, III	Executive Vice President, Finance and Administration, and Chief Financial Officer (Principal Financial Officer)	October 29, 2010
/s/ Jerry E. Corbin Jerry E. Corbin	Vice President and Corporate Controller (Principal Accounting Officer)	October 29, 2010
/s/ Richard E. Caruso, Ph.D. Richard E. Caruso, Ph.D.	Chairman of the Board	October 29, 2010
/s/ Thomas J. Baltimore, Jr. Thomas J. Baltimore, Jr.	Director	October 29, 2010
/s/ Keith Bradley, Ph.D. Keith Bradley, Ph.D.	Director	October 29, 2010
/s/ Neal Moszkowski Neal Moszkowski	Director	October 29, 2010
/s/ Raymond G. Murphy Raymond G. Murphy	Director	October 29, 2010
/s/ Christian S. Schade Christian S. Schade	Director	October 29, 2010
/s/ James M. Sullivan James M. Sullivan	Director	October 29, 2010
/s/ Anne M. VanLent Anne M. VanLent	Director	October 29, 2010

LIST OF EXHIBITS

Exhibit Number	Description of Exhibit
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3.2	Amended and Restated Bylaws of the Company (Incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on November 3, 2009)
4.1	Integra LifeSciences Holdings Corporation Second Amended and Restated 2003 Equity Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 21, 2010)
5.1	Opinion of Latham & Watkins LLP+
23.1	Consent of Latham & Watkins LLP (included in Exhibit 5.1)+
23.2	Consent of PricewaterhouseCoopers LLP+
24.1	Power of Attorney (included in the signature page hereto)+

⁺ Filed herewith

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FIRM / AFFILIATE OFFICES

Abu Dhabi Moscow Barcelona Munich Beijing New Jersey Brussels New York Chicago Orange County Paris Doha Dubai Riyadh Frankfurt Rome Hamburg San Diego Hong Kong San Francisco Houston Shanghai Silicon Valley London Los Angeles Singapore Madrid Tokyo Milan Washington,

D.C.

LATHAM & WATKINS LLP

October 29, 2010

Integra LifeSciences Holdings Corporation 311 Enterprise Drive Plainsboro, New Jersey 08536

Re: Registration Statement on Form S-8 with respect to 1,750,000 shares of Common Stock, par value \$0.01 per share

Ladies and Gentlemen:

We have acted as counsel to Integra LifeSciences Holdings Corporation, a Delaware corporation (the "Company"), in connection with the proposed issuance of up to 1,750,000 shares of common stock, \$0.01 par value per share (the "Shares"), issuable pursuant to the Second Amended and Restated 2003 Equity Incentive Plan (the "Plan"). The Shares are included in a registration statement on Form S-8 under the Securities Act of 1933, as amended (the "Act"), filed with the Securities and Exchange Commission (the "Commission") on October 29, 2010 (the "Registration Statement"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement, other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware, and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the recipients, and have been issued by the Company in the manner contemplated by and in accordance with the terms of the Plan, including the receipt of legal consideration for such Shares in an amount not less than the aggregate par value for such Shares, the issuance and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable.

LATHAM&WATKINSup

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated February 26, 2010 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in Integra LifeSciences Holdings Corporation's Annual Report on Form 10-K for the year ended December 31, 2009.

/s/ PricewaterhouseCoopers LLP

Florham Park, New Jersey October 28, 2010