

PROSPECTUS SUPPLEMENT NO. 1  
(To prospectus dated September 19, 2007)

2,490,131 Shares

INTEGRA LIFESCIENCES HOLDINGS CORPORATION

Common Stock

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This prospectus supplement No. 1, which supplements the prospectus dated September 19, 2007 and filed by us on September 20, 2007, relates to the resale from time to time by selling stockholders of the shares of common stock that may be issued to them upon the conversion of our 2.75% Senior Convertible Notes due 2010.

You should read this prospectus supplement in conjunction with the related prospectus, which should be delivered in conjunction with this prospectus supplement. This prospectus supplement is not complete without, and may not be delivered or used except in conjunction with the prospectus, including any amendments or supplements to the prospectus. This prospectus supplement is qualified by reference to the prospectus, except to the extent that the information provided by this prospectus supplement supercedes information contained in the prospectus.

You should read and rely only on the information contained in this prospectus supplement and the related prospectus, together with additional information described on page 34 of the related prospectus under the heading "Where You Can Find More Information and Incorporation by Reference." Neither we nor the selling stockholders have authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor the selling stockholders are making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained or incorporated by reference in this prospectus supplement or the related prospectus is accurate only as of the dates of the documents containing the information.

Investing in our common stock involves risks. See "Risk Factors" beginning on page 5 of the related prospectus.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement and the related prospectus. Any representation to the contrary is a criminal offense.

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THIS PROSPECTUS SUPPLEMENT IS DATED DECEMBER 14, 2007.

#### SELLING STOCKHOLDERS

The information appearing in the table below with respect to the selling stockholders named therein supplements and supersedes the information with respect to such selling stockholders in the table appearing under the heading "Selling Stockholders" in the related prospectus dated September 19, 2007 and filed September 2007. The information is based solely on information provided to us by or on behalf of the selling stockholders on or prior to December 13, 2007 in Selling Securityholder Notices and Questionnaires.

The number of shares of our common stock issuable upon the conversion of the notes shown in the table below assumes conversion of the full amount of notes held by each selling stockholder at the initial conversion rate of 15.0917 shares of our common stock per \$1,000 principal amount of notes and a cash payment in lieu of any fractional share, which rate is subject to adjustment upon the occurrence of certain events. Accordingly, the number of shares of our common stock issued upon the conversion of the notes may increase or decrease from time to time. The selling stockholders may offer all, some or none of the shares of our common stock that we may issue upon the conversion of the notes. Therefore, we cannot estimate the number of shares of our common stock that will be held by the selling stockholders upon consummation of any of these sales. The

number of shares of our common stock owned by the other selling stockholders or any future transferee from any such holder assumes that they do not beneficially own any shares of common stock other than the common stock that we may issue to them upon the conversion of the notes. In addition, the selling stockholders identified below may have acquired, sold, transferred or otherwise disposed of, in transactions exempt from the registration requirements of the Securities Act, all or a portion of their notes or shares of our common stock since the date on which they provided the information regarding their notes and therefore the aggregate number of shares set forth in the table below may exceed the number of shares actually issuable upon conversion of the notes.

Based upon information provided by the selling stockholders, none of the selling stockholders or their affiliates has, or within the past three years has had, any material relationship with us or any of our predecessors or affiliates, except as disclosed below.

Name of Selling Stockholder	Principal Amount of Notes Owned Prior to Offering (in U.S. dollars)	Number of Shares Beneficially Owned Prior to Offering (1)	Number of Shares Being Offered	Number of Shares Beneficially Owned After Offering (2)	Percentage of Shares Outstanding (2)(3)
<del>Acuity Master Fund Ltd.</del>	<del>2,800,000</del>	<del>42,256</del>	<del>42,256</del>	<del>0</del>	<del>*</del>
<del>DBAG London (4)</del>	<del>31,100,000</del>	<del>469,351</del>	<del>469,351</del>	<del>0</del>	<del>*</del>
<del>dbx Convertible Arbitrage 12 Fund c/o Quattro Global Capital, LLC</del>	<del>296,000</del>	<del>4,467</del>	<del>4,467</del>	<del>0</del>	<del>*</del>
<del>Institutional Benchmark Series (Master Feeder) Limited in Respect of Electra Series c/o Quattro Global Capital, LLC</del>	<del>1,036,000</del>	<del>15,635</del>	<del>15,635</del>	<del>0</del>	<del>*</del>

JPMorgan Securities Inc. (5)	5,600,000	84,513	84,513	0	*
Lyxor/Acuity Fund Ltd. (6)	2,700,000	40,747	40,747	0	*
Partners Group Alternative Strategies PCC Limited, Red Delta Cell c/o Quattro Global Capital, LLC	300,000	4,527	4,527	0	*
Piper Jaffray & Co. (7)	8,000,000	120,733	120,733	0	*
Quattro Fund Ltd.	5,624,000	84,875	84,875	0	*
Quattro Multistrategy Masterfund LP	444,000	6,700	6,700	0	*
Silvercreek II Limited	4,000,000	60,366	60,366	0	*
Silvercreek Limited Partnership	6,000,000	90,550	90,550	0	*

\* Less than 1%.

(1) Certain of the selling stockholders listed in this table may also own or be deemed to own shares of the Company's common stock issuable upon conversion of the 2008 notes and/or the 2012 notes.

(2) The beneficial ownership in this column assumes that the selling stockholder sells all of the shares offered by this prospectus that are beneficially owned by the selling stockholder and that prior to the sale of such shares the selling stockholder does not acquire additional shares or dispose of shares beneficially owned by the stockholder that are not being offered pursuant to this prospectus.

(3) The percentage of outstanding shares is based on 26,363,053 shares of common stock outstanding as of November 5, 2007.

(4) The selling stockholder entered into call and warrant transactions with the Company in connection with the private placement of the notes and the concurrent private placement of the 2012 notes. The selling stockholder is an affiliate of a registered broker dealer, Deutsche Bank Securities, Inc. Deutsche Bank Securities Inc. was an initial purchaser of the notes and the 2012 notes in the private placements of such notes. An affiliate of the selling stockholder and of Deutsche Bank Securities Inc. is a lender under the Company's credit facility. The selling stockholder certifies that it acquired the securities in the ordinary course of business, and that, at the time it acquired the securities, it did not have any agreements or understandings, direct or indirect, with any person to distribute the securities.

~~(5) The selling stockholder is a registered broker dealer and was both an initial purchaser and a representative of the initial purchasers of the notes and the 2012 notes in the private placement of the notes and the concurrent private placement of the 2012 notes. An affiliate of the selling stockholder is a lender under the Company's credit facility. The selling stockholder certifies that it acquired the securities in the ordinary course of business, and that, at the time it acquired the securities, it did not have any agreements or understandings, direct or indirect, with any person to distribute the securities.~~

~~(6) The selling stockholder is an affiliate of a registered broker dealer, Fimat USA LLC, which is a wholly owned subsidiary Societe Generale. The selling stockholder has stated that the registered broker dealer is not participating in the offering and certifies that it acquired the securities in the ordinary course of business, and that, at the time it acquired the securities, it did not have any agreements or understandings, direct or indirect, with any person to distribute the securities.~~

~~(7) The selling stockholder is a registered broker dealer. The selling stockholder certifies that it acquired the securities in the ordinary course of business, and that, at the time it acquired the securities, it did not have any agreements or understandings, direct or indirect, with any person to distribute the securities.~~