



Common Stock, \$0.001 par value
Up to 7,474,153 Shares

This prospectus supplement updates and supplements the prospectus dated August 3, 2012 of Stereotaxis, Inc., relating to the offering of up to 7,474,153 shares of our common stock, which includes (i) up to 4,070,032 shares of our common stock issuable upon conversion of or otherwise underlying our subordinated convertible debentures and (ii) up to 3,404,121 shares of our common stock issuable upon the exercise of warrants to purchase our common stock. The prospectus also covers any additional shares of common stock that may become issuable upon anti-dilution adjustment pursuant to the terms of these debentures warrants by reason of stock splits, stock dividends, or similar events. The debentures and warrants to purchase common stock were acquired by the selling stockholders in a private placement by us that closed on May 10, 2012.

The selling stockholders may sell all or a portion of the shares from time to time at prices which will be determined by the prevailing market price for the shares. We will not receive any proceeds from the sale of the shares by the selling stockholders. We will, however, to the extent the warrants are exercised for cash, as opposed to being exercised on a cashless basis, receive proceeds from such exercises. To the extent we receive such proceeds, they will be used for working capital and general corporate purposes. Please see “Selling Stockholders” and “Plan of Distribution” for information about the selling stockholders and the manner of offering of the common stock.

Investing in our common shares involves risks. See “Risk Factors” beginning on page 4 of the prospectus.

Neither the Securities and Exchange Commission, which we refer to as SEC, nor any state securities commission or regulatory authority has approved or disapproved of these Interests, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is August 24, 2012.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means we can disclose important information to you by referring you to other documents that we filed separately with the SEC. You should consider the incorporated information as if we reproduced it in this prospectus.

We incorporate by reference into this prospectus the following documents (SEC File No. 000-50884), which contain important information about us and our business and financial results:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2011, as amended by our Annual Report on Form 10-K/A for the same period;
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2012 and June 30, 2012;
- our Definitive Proxy Statement on Schedule 14A filed June 8, 2012;
- our Definitive Proxy Statement on Schedule 14A filed July 20, 2012; and
- our Current Reports on Form 8-K filed January 23, 2012, March 5, 2012 (regarding Item 1.01), April 2, 2012, May 2, 2012, May 8, 2012, May 30, 2012, June 29, 2012, July 10, 2012, July 25, 2012, and August 24, 2012 and Form 8-K/A filed March 15, 2012.

For purposes of the registration statement of which this prospectus is a part, any statement contained in a document incorporated or deemed to be incorporated herein by reference shall be deemed to be modified or superseded to the extent that a statement contained herein modifies or supersedes such statement in such document. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of the registration statement of which this prospectus is a part.

You may get copies of any of the document incorporated by reference (excluding exhibits, unless the exhibits are specifically incorporated) at no charge to you by writing or calling the investor relations department at Stereotaxis, Inc. 4320 Forest Park Avenue, Suite 100, St. Louis, Missouri 63108, telephone (314) 678-6100.