SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-3
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

ATRICURE, INC.

(Exact name of Registrant as Specified in its Charter)

Delaware (State Or Other Jurisdiction Of Incorporation Or Organization) 7555 Innovation Way Mason, Ohio 45040 (513) 755-4100

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

34-1940305 (IRS Employer Identification Number)

F. Mark Reuter, Esq. Keating Muething & Klekamp PLL One East Fourth Street, Suite 1400 Cincinnati, Ohio 45202 Telephone: (513) 579-6469

Facsimile: (513) 579-6457 (Name, Address and Telephone Number of Agent for Service)

DEREGISTRATION OF SECURITIES

This Post-Effective Amendment relates to the Registration Statement on Form S-3 (Registration No. 333-193370) filed on January 15, 2014, pertaining to Debt Securities, Preferred Stock, Common Stock, Depositary Shares, Warrants, and Units of AtriCure, Inc.

The undersigned Registrant hereby removes and withdraws from registration all securities registered pursuant to this Registration Statement which remain unissued and unsold.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, and Rule 478 thereunder, the Registrant has duly caused this Post-Effective Amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Mason, Ohio, as of the 10th day of November, 2015.

ATRICURE, INC.

By: /s/ M. Andrew Wade

M. Andrew Wade, Senior Vice President and Chief Financial Officer