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**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**POST-EFFECTIVE AMENDMENT NO. 1 TO  
FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**ATRICURE, INC.**

(Exact name of Registrant as Specified in its Charter)

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**Delaware**  
(State Or Other Jurisdiction Of  
Incorporation Or Organization)

**34-1940305**  
(IRS Employer  
Identification Number)

**6217 Centre Park Drive  
West Chester, Ohio 45069  
(513) 755-4100**

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

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**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)

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## DEREGISTRATION OF SECURITIES

This Post-Effective Amendment relates to the Registration Statement on Form S-3 (Registration No. 333-175288) filed on July 1, 2011, 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 West Chester, Ohio, as of the 7th day of February, 2014.

**ATRICURE, INC.**

By: /s/ M. Andrew Wade  
M. Andrew Wade  
Vice President and  
Chief Financial Officer