

**PROSPECTUS SUPPLEMENT NO. 13 DATED JUNE 6, 2016
TO
PROSPECTUS DATED JANUARY 15, 2016
(AS SUPPLEMENTED)**

ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 12,200,000 Shares of Common Stock

This Prospectus Supplement No. 13 supplements the prospectus of Arch Therapeutics, Inc. (“the **Company**”, “**we**”, “**us**”, or “**our**”) dated January 15, 2016 (as supplemented to date, the “**Prospectus**”) with the following attached documents which we filed with the Securities and Exchange Commission:

A Our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 6, 2016

This Prospectus Supplement No. 13 should be read in conjunction with the Prospectus, which is required to be delivered with this Prospectus Supplement. This Prospectus Supplement updates, amends and supplements the information included in the Prospectus. If there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on the information in this Prospectus Supplement.

This Prospectus Supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any amendments or supplements to it.

Investing in our common stock involves a high degree of risk. Before making any investment in our common stock, you should carefully consider the risk factors for our common stock, which are described in the Prospectus, as amended or supplemented.

You should rely only on the information contained in the Prospectus, as supplemented or amended by this Prospectus Supplement No. 13 and any other Prospectus Supplement or amendment thereto. We have not authorized anyone to provide you with different information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement No. 13 is June 6, 2016

INDEX TO FILINGS

Annex

The Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 6, 2016

A

ANNEX A

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 OR 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **June 6, 2016**

ARCH THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction
of incorporation)

000-54986
(Commission
File Number)

46-0524102
(I.R.S. Employer
Identification No.)

235 Walnut Street, Suite 6
Framingham, Massachusetts
(Address of principal executive offices)

01702
(Zip Code)

Registrant's telephone number, including area code: **(617) 431-2313**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 8.01 Other Events.

On June 6, 2016, Arch Therapeutics, Inc. (the “**Company**”) issued a press release announcing that the Company has completed patient enrollment in its clinical trial in Ireland using AC5™. The text of the press release is attached hereto as Exhibit 99.1 and is incorporated by reference herein.

Item 9.01 Financial Statements and Exhibit

(d) Exhibits

Exhibit	Description
99.1	Press Release issued by Arch Therapeutics, Inc. on June 6, 2016

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ARCH THERAPEUTICS, INC.

Dated: June 6, 2016

By: /s/ Terrence W. Norchi, M.D.

Name: Terrence W. Norchi, M.D.

Title: President, Chief Executive Officer

Exhibit List

Exhibit	Description
99.1	Press Release issued by Arch Therapeutics, Inc. on June 6, 2016

Arch Therapeutics Completes Patient Enrollment in Clinical Study of AC5

Data Expected During Summer 2016 After Completion of 30-day Follow-up and Subsequent Statistical Analysis

FRAMINGHAM, MA – June 06, 2016 – Arch Therapeutics, Inc. (OTCQB: ARTH) (“Arch” or the “Company”), developer of the AC5 Surgical Hemostatic Device™ (AC5™) for use in controlling bleeding and fluid loss in order to provide faster and safer surgical and interventional care, announced today that it had completed patient enrollment in its first clinical study to assess the safety and performance of AC5 in humans. The study is being carried out in collaboration with CÚRAM, Science Foundation Ireland Centre for Research in Medical Devices and the Clinical Research Facility based at National University of Ireland Galway.

A total of 46 patients have been enrolled in this randomized controlled single-blind study, which is taking place in Ireland. The Company anticipates announcing the results from the study during summer 2016 after completion of the patient follow-up assessments (30-day) and subsequent statistical analysis. The endpoints include product-related adverse events and time to hemostasis. To date, no serious adverse events have been reported.

Terrence W. Norchi, MD, President and CEO of Arch Therapeutics, said, “This is yet another milestone for Arch Therapeutics on the path toward regulatory approval of AC5. Now that the planned number of patients have been treated, we are awaiting completion of the remaining 30-day follow-up assessments. We are eager to obtain the data when the statistical analysis is available, and we look forward to reporting the results later this summer.”

The Company anticipates filing a CE mark application for AC5 during summer 2016 and is currently planning its next clinical-regulatory steps for both the EU and the US.

Professor Abhay Pandit, Director of CÚRAM, said: “CÚRAM are delighted to support Arch through this trial and in their drive to commercialize AC5.”

The current study design is intended to assess safety and performance of AC5 during the course of a dermatological procedure performed on the 46 patients, of whom 10 were taking an antiplatelet medication, such as aspirin, during the study period, and was designed so that neither the patients nor the clinical personnel performing the 30-day follow-up assessments would be aware of whether a particular lesion had been treated with AC5 or a control. Patients participating in the study had at least two dermatological lesions removed surgically, of which one was randomly assigned to be treated with AC5 and the other lesion assigned to be treated with a control treatment.

About Arch Therapeutics, Inc.

Arch Therapeutics, Inc. is a medical device company developing a novel approach to stop bleeding (hemostasis) and control leaking (sealant) during surgery and trauma care. Arch is developing products based on an innovative self-assembling peptide technology platform to make surgery and interventional care faster and safer for patients. Arch's flagship development stage product candidate, known as the AC5 Surgical Hemostatic Device™, is being designed to achieve hemostasis in surgical procedures.

About CÚRAM

CÚRAM is the Science Foundation Ireland Centre for Research in Medical Devices. Supported by Science Foundation Ireland (SFI) and industry partners, CÚRAM enhances Ireland's standing as a major hub for the global medical devices industry. Its goal is to radically improve quality of life for patients with chronic illness by developing the next generation of smart, implantable medical devices. CÚRAM's innovative approach incorporates biomaterials, drug delivery, cell based technologies, glycosciences and device design to enhance, develop and validate both traditional and new combinational medical devices, from molecular design stage to implant manufacturing. CÚRAM's devices are being developed with strong clinical collaborations to enable rapid translation of research findings to clinical application. Key to the approach is the establishment of unique networks of national and international collaborations, integrating world class clinical, academic and industrial partners

Notice Regarding Forward-Looking Statements

This news release contains "forward-looking statements" as that term is defined in Section 27(a) of the Securities Act of 1933, as amended, and Section 21(e) of the Securities Exchange Act of 1934, as amended. Statements in this press release that are not purely historical are forward-looking statements and include any statements regarding beliefs, plans, expectations or intentions regarding the future. Such forward-looking statements include, among other things, references to novel technologies and methods, our business and product development plans and projections, or market information. Actual results could differ from those projected in any forward-looking statements due to numerous factors. Such factors include, among others, the inherent uncertainties associated with developing new products or technologies and operating as a development stage company, our ability to retain important members of our management team and attract other qualified personnel, our ability to raise the additional funding we will need to continue to pursue our business and product development plans, our ability to obtain required regulatory approvals, our ability to develop and commercialize products based on our technology platform, and market conditions. These forward-looking statements are made as of the date of this news release, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements. Although we believe that any beliefs, plans, expectations and intentions contained in this press release are reasonable, there can be no assurance that any such beliefs, plans, expectations or intentions will prove to be accurate. Investors should consult all of the information set forth herein and should also refer to the risk factors disclosure outlined in the reports and other documents we file with the SEC, available at www.sec.gov.

On Behalf of the Board,
Terrence W. Norchi, MD
Arch Therapeutics, Inc.

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Source: Arch Therapeutics, Inc.
