

**PROSPECTUS SUPPLEMENT NO. 2 DATED MARCH 7, 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. 2 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 document which we filed with the Securities and Exchange Commission on March 7, 2016:

A. Our Current Report on Form 8-K filed with the Securities and Exchange Commission on March 7, 2016

This Prospectus Supplement No. 2 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. 2 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. 2 is March 7, 2016

INDEX TO FILINGS

	<u>Annex</u>
The Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on March 7, 2016	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): **March 7, 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 March 7, 2016, Arch Therapeutics, Inc. (the “**Company**”) issued a press release announcing that the Company has commenced enrollment and treatment in its first clinical trial in Western Europe. 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 March 7, 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: March 7, 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 March 7, 2016

Arch Therapeutics Clinical Trial Actively Enrolling Patients and Providing Investigational Treatment

Major Milestone Along Path Toward Commercialization of AC5

FRAMINGHAM, MA – March 7, 2016 — Arch Therapeutics, Inc. (OTCQB: ARTH) (“Arch” or the “Company”), developer of the AC5 Surgical Hemostatic Device™ (“AC5™”), has initiated patient enrollment and treatment in its first clinical trial in Western Europe.

Terrence W. Norchi, MD, President and CEO of Arch, said, “The start of this trial marks a major milestone for the Company. It is firmly underway with patients being actively screened, enrolled, and treated or scheduled for treatment. Our team has put in tremendous effort to get us to this point and we are pleased with this progress.”

The randomized controlled single-blind investigation is designed to assess safety and performance of AC5 during the course of a dermatological procedure performed in up to approximately 45 patients, of whom 10 will be taking an antiplatelet medication (commonly referred to as a “blood thinner”) during the study period. Patients participating in the study will have at least two dermatological lesions removed surgically. One of the wounds created as a result of the excision will receive AC5 while the other will receive a control treatment.

The endpoints include product related adverse effects and time to hemostasis. Follow-up assessments of patients are planned for seven and 30 days following the procedure. As previously stated, data are projected to be available within two quarters of the start of the trial.

Dr. Norchi added, “This clinical trial is a key component of our commercialization plan, representing the first time that AC5 has been used on humans in a surgical setting. Further, it highlights that Arch has completed a number of important achievements that are required before a patient could be treated with AC5. As we are getting closer to bringing AC5 to market, we continue to advance our pre-clinical work and clinical-regulatory planning for additional indications for AC5 and other products, in each case with the ultimate goal of making a difference in patients’ lives.”

About Arch Therapeutics, Inc.

Arch Therapeutics, Inc. is a biotechnology 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 minimally invasive and open surgical procedures and is intended to be regulated as a medical device.

Find out more at www.archtherapeutics.com.

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 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.

Contact:

ARTH Investor Relations
Toll Free: +1-855-340-ARTH (2784) (US and Canada)
Email: investors@archtherapeutics.com
Website: www.archtherapeutics.com

Or

Richard Davis
Chief Financial Officer
Arch Therapeutics, Inc.
Phone: 617-431-2308
Email: rdavis@archtherapeutics.com
Website: www.archtherapeutics.com
