

**PROSPECTUS SUPPLEMENT NO. 3 DATED JUNE 12, 2015
TO
PROSPECTUS DATED MAY 22, 2015
(AS SUPPLEMENTED)**

ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 31,279,926 Shares of Common Stock

This Prospectus Supplement No. 3 supplements the prospectus of Arch Therapeutics, Inc. (“the **“Company”**”, “we”, “us”, or “our”) dated May 22, 2015 (as supplemented to date, the “**Prospectus**”) with the following additions and changes:

A. Amend the Selling Security holder information set forth in the Prospectus.

This Prospectus Supplement No. 3 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. 3 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. 3 is June 12, 2015

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Annex

Amendment to Selling Securityholder Information

A

ANNEX A
AMENDMENT TO SELLING SECURITYHOLDER INFORMATION

This Prospectus Supplement No. 3 is being filed in connection with several changes to the selling securityholder information as set forth in the Prospectus dated May 22, 2015 (as supplemented to date, the “Prospectus”) including, but not limited to, (i) the transfer by Equitec Specialists, LLC of its Series A Warrants, Series C Warrants, Convertible Note and its shares of our common stock to Intracoastal Capital LLC, an affiliate; and (ii) sales of securities registered under the registration statement of which the Prospectus is a part by several of the selling securityholders. Consequently, the selling securityholders table, appearing under the heading “SELLING SECURITYHOLDERS” in the Prospectus, is hereby amended and supplemented by replacing that table and the accompanying footnotes with the following:

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Name of Selling Securityholder	Number of Shares of Common Stock Issued and Issuable (1)	Number of Shares of Common Stock Beneficially Owned Prior to this Offering (2)	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus (3)	Number of Shares of Common Stock Beneficially Owned After This Offering (4)	Percentage of Shares of Common Stock Beneficially Owned After This Offering (5)
Cranshire Capital Master Fund, Ltd. (6)	8,412,482	1,889,439	6,812,482	1,600,000	1.87%
Intracoastal Capital LLC (6)	3,427,524	2,154,214	1,677,524	1,750,000	2.15%
Anson Investments Master Fund, Ltd. (7)	5,395,000	3,825,993	3,045,000	2,350,000	2.82%
Capital Ventures International (8)	7,695,720	3,825,993	5,345,720	2,350,000	2.80%
Heng Hong Ltd (9)	7,350,000	3,825,993	6,300,000	1,050,000	1.26%
Punit Dhillon (10)	3,200,000	3,200,000	2,100,000	1,100,000	1.38%
Ocean Creation Investments Limited (11)	700,000	700,000	600,000	100,000	0.13%
Ong Kim Kiat	700,000	700,000	600,000	100,000	0.13%
Karmdeep & Harpreet Bains	700,000	700,000	600,000	100,000	0.13%
Total	37,580,726	20,821,632	27,080,726	10,500,000	12.66%

- (1) Reflects the total number of shares of common stock issued or issuable to each selling securityholder, including (a) all remaining securities issued in the Private Placement Financing including, to the extent applicable, the remaining shares acquired by such selling securityholder upon the exercise of the Series B Warrants and Series C Warrants following the December 2014 Amendment, in each case without regard to ownership limitations on the exercise of the Series A Warrants and Series C Warrants as described in footnote (2) below, (b) all shares of common stock underlying the Convertible Notes issued in the Notes Offering without regard to ownership limitations on the conversion of such Convertible Notes and assuming that the Convertible Notes are held to maturity and the accrued interest thereunder is converted, along with the outstanding principal, into shares of our common stock at the conversion rate in effect as of the date of this prospectus, none of which are being offered for resale by this prospectus, and (c) all other securities issued in transactions unrelated to the Private Placement Financing or Notes Offering, if any, none of which are being offered for resale by this prospectus and in each case without regard to any ownership limitations upon the exercise or conversion of such securities.
- (2) The Warrants issued in the Private Placement Financing provide that a selling securityholder may not exercise its Warrants to the extent (but only to the extent) that the exercise thereof would result in the selling securityholder or any of its affiliates beneficially owning more than 4.9% of our common stock after giving effect to such conversion. Similarly, the Convertible Notes issued in the Notes Offering provide that the holder may not convert a Convertible Note to the extent (but only to the extent) that the conversion thereof would result in the holder or any of its affiliates beneficially owning more than 4.99% of our common stock (which may be increased to 9.99% at the holder’s discretion). As a result, the number of shares of common stock reflected in this column as beneficially owned by each selling securityholder includes (a) the remaining shares of common stock that were issued to such selling securityholder upon the closing of the Private Placement and/or, to the extent applicable, acquired by such selling securityholder upon the exercise of the Series B Warrants and Series C Warrants following the December 2014 Amendment, (b) if any, the number of shares of common stock underlying the Series A and Series C Warrants issued to such selling securityholder that such selling securityholder has the right to acquire without it or any of its affiliates beneficially owning more than 4.9% of our currently outstanding common stock, based on 78,081,487 outstanding shares of our common stock as of June 12, 2015, (c) if any, the number of shares of common stock underlying the Convertible Notes issued to certain of the selling securityholders that such selling securityholder has the right to acquire without it or any of its affiliates beneficially owning more than 4.99% of our currently outstanding common stock (which may be increased to 9.99% at the holder’s discretion), based on 78,081,487 outstanding shares of our common stock as of June 12, 2015 and assuming that the Convertible Notes are held to maturity and the accrued interest thereunder is converted, along with the outstanding principal, into shares of our common stock at the conversion rate in effect as of the date of this prospectus, and (d) if any, the number of shares of our common stock beneficially owned by such selling securityholder that were acquired in transactions unrelated to the Private Placement Financing or the Notes Offering.

- (3) Includes (a) the remaining shares of common stock that were issued to such selling securityholder upon the closing of the Private Placement and/or, to the extent applicable, acquired by such selling securityholder upon the exercise of the Series B Warrants and Series C Warrants following the December 2014 Amendment, and (b) 11,400,000 shares and 9,395,000 shares of common stock issuable as of the date of this prospectus upon exercise of the Series A Warrants and Series C Warrants, respectively, issued to the selling securityholders in the Private Placement Financing, in each case without taking into account the ownership limitations set forth in the Warrants as described in footnote (2). Excludes an additional 5,700,000 shares of common stock that became issuable under the Series A Warrants as a result of the anti-dilution provisions in the Series A Warrants that were triggered by the Notes Offering.
- (4) To the extent applicable, the totals do not reflect the ownership limitation set forth in the Convertible Notes described in footnote (2), and assume that (a) all of the shares of common stock to be registered by the registration statement of which this prospectus is a part, including the remaining shares of common stock that were issued to such selling securityholder upon the closing of the Private Placement and/or, to the extent applicable, acquired by such selling securityholder upon the exercise of the Series B Warrants and Series C Warrants following the December 2014 Amendment, and an aggregate total of 20,795,000 of the shares of common stock issuable as of the date of this prospectus upon exercise of the Series A Warrants and Series C Warrants (in each case without taking into account the ownership limitations set forth in the Warrants as described in footnote (2)), are sold in this offering, (b) the Convertible Notes are held to maturity and the accrued interest thereunder is converted, along with the outstanding principal, into shares of our common stock at the conversion rate in effect as of the date of this prospectus, and (c) the selling securityholders do not acquire additional shares of our common stock after the date of this prospectus and prior to completion of this offering.
- (5) Percentage ownership for each selling securityholder is determined under Section 13(d) of the Exchange Act and is based on 78,081,487 outstanding shares of our common stock as of June 12, 2015, and assumes that all shares underlying such selling securityholder's Series A Warrants and Series C Warrants that are being offered by such selling securityholder by this prospectus have been issued and are outstanding.
- (6) Mitchell P. Kopin ("Mr. Kopin") and Daniel B. Asher ("Mr. Asher"), each of whom are managers of Intracoastal Capital LLC ("Intracoastal"), have shared voting control and investment discretion over the securities reported herein that are held by Intracoastal. As a result, each of Mr. Kopin and Mr. Asher may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) of the securities reported herein that are held by Intracoastal.

Cranshire Capital Advisors, LLC ("CCA") is the investment manager of Cranshire Capital Master Fund, Ltd. ("Cranshire Master Fund") and consequently has voting control and investment discretion over the securities held by Cranshire Master Fund described below. Mr. Kopin, the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Cranshire Master Fund that are described below.

Mr. Kopin may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of 4,043,653 shares of common stock, which consists of (i) 177,524 shares of common stock held by Intracoastal, (ii) 812,482 shares of common stock held by Cranshire Master Fund, (iii) 1,900,000 shares of common stock issuable upon exercise of Series A and Series C Warrants held by Intracoastal (the "Intracoastal Warrants"), (iv) 1,076,957 shares of common stock issuable upon exercise of Series A and Series C Warrants held by Cranshire Master Fund (the "Master Fund Warrants") and (v) 76,690 shares of common stock issuable upon conversion of the Convertible Note held by Intracoastal (the "Intracoastal Convertible Debenture"). The foregoing excludes (1) 6,523,043 shares of common stock issuable upon exercise of the Master Fund Warrants because each of the Master Fund Warrants contains ownership limitations, under which the holder thereof does not have the right to exercise the Master Fund Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of the common stock and (2) 1,273,310 shares of common stock issuable upon conversion of the Intracoastal Convertible Debenture because the Intracoastal Convertible Debenture contains ownership limitations, under which the holder thereof does not have the right to exercise the Intracoastal Convertible Debenture to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.99% of the common stock. Without such ownership limitations, Mr. Kopin may be deemed to have beneficial ownership of 11,840,006 shares of common stock.

As a result of the foregoing, CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of 1,889,439 shares of common stock, which consists of (i) 812,482 shares of common stock held by Cranshire Master Fund and (ii) 1,076,957 shares of common stock issuable upon exercise of the Master Fund Warrants. The foregoing excludes 6,523,043 shares of common stock issuable upon exercise of the Master Fund Warrants because each of the Master Fund Warrants contains ownership limitations, under which the holder thereof does not have the right to exercise the Master Fund Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of the common stock. Without such ownership limitations, CCA may be deemed to have beneficial ownership of 8,412,482 shares of common stock.

Mr. Asher, who is a manager of Intracoastal, is also a control person of a broker-dealer. As a result of such common control, Intracoastal may be deemed to be an affiliate of a broker-dealer. Intracoastal acquired the shares of common stock being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares of common stock and Series A and Series C Warrants described herein, Intracoastal did not have any arrangements or understandings with any person to distribute such securities.

- (7) M5V Advisors Inc. and Frigate Ventures LP ("M5V" and "Frigate", respectively), the Co-Investment Advisers of Anson Investments Master Fund LP ("Anson"), have voting and dispositive power over the securities held by Anson. Bruce Winson is the managing member of Admiralty Advisors LLC, which is the general partner of Frigate. Moez Kassam and Adam Spears are directors of M5V. Mr. Winson, Mr. Kassam and Mr. Spears each disclaim beneficial ownership of the securities held by Anson that are covered hereunder except to the extent of their pecuniary interest therein.

The information presented for Anson in column 3 of this table excludes (a) 219,007 shares of our common stock issuable upon exercise of Series A and Series C Warrants held by Anson because such Series A and Series C Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Series A and Series C Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock, and (b) assuming that the Convertible Notes are held to maturity and the accrued interest thereunder is converted, along with the outstanding principal, into shares of our common stock at the conversion rate in effect as of the date of this prospectus, 1,350,000 shares of our common stock issuable upon conversion of the Convertible Note held by an Anson because the Convertible Note contains ownership limitations as described in footnote (2), under which the holder thereof does not have the right to convert the Convertible Note to the extent (but only to the extent) that such conversion would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.99% of our common stock (which may be increased to 9.99% at the holder's discretion). Without such ownership limitations, Anson, M5V, Frigate, Admiralty Advisors LLC and Messrs. Winson, Kassam and Spears may be deemed to have beneficial ownership of 5,395,000 shares of our common stock.

- (8) Heights Capital Management, Inc., the authorized agent of Capital Ventures International, has discretionary authority to vote and dispose of the shares held by Capital Ventures International. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., also has investment discretion and voting power over the shares held by Capital Ventures International. As a result, each of Heights Capital Management, Inc. and Mr. Kobinger may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Capital Ventures International that are covered hereunder. Mr. Kobinger disclaims any such beneficial ownership of such securities.

The information presented for Capital Ventures International in column 3 of this table excludes (a) 2,519,727 shares of our common stock issuable upon exercise of Series A and Series C Warrants held by Anson because such Series A and Series C Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Series A and Series C Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock, and (b) assuming that the Convertible Notes are held to maturity and the accrued interest thereunder is converted, along with the outstanding principal, into shares of our common stock at the conversion rate in effect as of the date of this prospectus, 1,350,000 shares of our common stock issuable upon conversion of the Convertible Note held by Capital Ventures International because the Convertible Note contains ownership limitations as described in footnote (2), under which the holder thereof does not have the right to convert the Convertible Note to the extent (but only to the extent) that such conversion would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.99% of our common stock (which may be increased to 9.99% at the holder's discretion). Without such ownership limitations, Capital Ventures International, Heights Capital Management, Inc. and Mr. Kobinger would be deemed to have beneficial ownership of 7,695,720 shares of our common stock.

Capital Ventures International is affiliated with one or more broker-dealers, none of which are currently expected to participate in the offering and resale pursuant to the prospectus contained in this registration statement of the shares held of record by Capital Ventures International. Capital Ventures International acquired the shares being registered hereunder in the ordinary course of business, and at the time of the acquisition of the shares and Warrants described herein, Capital Ventures International did not have any arrangements or understandings with any person to distribute such securities.

- (9) Daniel MacMullin, in his capacity as the Managing Partner of Heng Hong Ltd, has investment discretion and voting power over the shares held by Heng Hong Ltd. As a result, Mr. MacMullin may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Heng Hong Ltd that are covered hereunder. Mr. MacMullin disclaims any such beneficial ownership of such securities.

The information presented for Heng Hong Ltd in column 3 of this table excludes 3,524,007 shares of our common stock issuable upon exercise of Series A and Series C Warrants held by Heng Hong Ltd because such Series A and Series C Warrants contain ownership limitations as described in footnote (2), under which the holder thereof does not have the right to exercise the Series A and Series C Warrants to the extent (but only to the extent) that such exercise would result in beneficial ownership by the holder thereof or any of its affiliates of more than 4.9% of our common stock. Without such ownership limitations, Heng Hong Ltd and Mr. MacMullin would be deemed to have beneficial ownership of 7,350,000 shares of our common stock.

- (10) Mr. Dhillon may be deemed to have beneficial ownership of the following: (a) (i) 700,000 shares of common stock issued and sold to 0903746 B.C. Ltd. in the Private Placement Financing, and (ii) 1,750,000 shares of common stock underlying Series A and Series C Warrants issued to 0903746 B.C. Ltd. in the Private Placement Financing, all of which were transferred to Punit Dhillon on February 28, 2014 in a private party transfer exempt from the registration requirements of the Securities Act pursuant to the terms of a share transfer agreement, to which we were a party solely to consent to such transfer, (b) 500,000 shares of common stock held of record by Mr. Dhillon that were issued as consideration for his past service as an advisor to us, which consulting relationship is unrelated to the Private Placement Financing and which shares are not being registered by the registration statement of which this prospectus forms a part, and (c) 250,000 shares of common stock held of record by Ms. Narinder Dhillon, Mr. Dhillon's spouse, that were transferred to 0860056 B.C. Ltd. on June 19, 2013 as Dr. Avtar Dhillon's designee to receive a portion of the 10,000,000 shares required to be transferred to Dr. Dhillon (or his designees) as a condition to the closing of the Merger and were subsequently transferred to Ms. Dhillon, the sole shareholder of 0860056 B.C. Ltd., pursuant to a share dividend effected by 0860056 B.C. Ltd. on February 28, 2014, which transactions are unrelated to the Private Placement Financing and which shares are not being registered in the registration statement of which this prospectus forms a part. Mr. Dhillon may be deemed to beneficially own the shares of common stock held of record by Ms. Narinder Dhillon, and he disclaims any beneficial ownership of such securities except to the extent of his pecuniary interest therein. Mr. Dhillon is the nephew of Dr. Avtar Dhillon, the Chairman of our Board of Directors, and also serves as the President and Chief Executive Officer of a company for which Dr. Avtar Dhillon serves as a director.

- (11) Norman Winata, in his capacity as the Managing Member of Ocean Creation Investments Limited, has investment discretion and voting

power over the shares held by Ocean Creation Investments Limited. As a result, Mr. Winata may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities held by Ocean Creation Investments Limited that are covered hereunder. Mr. Winata disclaims any such beneficial ownership of such securities.

Except for the ownership of the common stock, Warrants issued in the Private Placement Financing, the Convertible Notes issued in the Notes Offering and as otherwise described in the table above and this “Selling Securityholder” section, (a) we have not made, and are not required to make, any potential payments regarding the Private Placement Financing to any selling securityholder, any affiliate of a selling securityholder, or any person with whom any selling securityholder has a contractual relationship, and (b) none of the selling securityholders has, or has had within the past three years, any material relationship with us or any of our predecessors or affiliates. Additionally, none of the selling securityholders holds any of our securities, other than those issued in the Private Placement Financing, that have been registered under the Securities Act or that are entitled to registration rights thereunder. We have also been advised that none of the selling securityholders is a broker-dealer or an affiliate of a broker-dealer, other than Mr. Asher, who is a manager of Intracoastal and also a control person of a broker-dealer, and Capital Ventures International, each of which has informed us that it is an affiliate of a broker-dealer.

The holders of the Series A and Series C Warrants issued in the Private Placement Financing have ongoing rights to exercise those Series A and Series C Warrants. We have described the material terms of the Series A and Series C Warrants elsewhere in this prospectus. In addition, the participants in the Private Placement Financing have ongoing registration rights related to the securities issued therein pursuant to the terms of the Registration Rights Agreement, which are described in more detail elsewhere in this prospectus.

We have made no payments, in cash or equity, to any of the selling securityholders in connection with this offering, except that we have reimbursed, or have agreed to reimburse, Cranshire Master Fund, one of the selling securityholders, an aggregate cash amount of up to \$35,000 for costs and expenses incurred by it or its affiliates in connection with the transactions contemplated by the Private Placement Financing and the registration of the securities being registered hereby. Additionally, we may be required to make certain payments to the investors in the Private Placement Financing under certain circumstances in the future pursuant to the terms of the Securities Purchase Agreement and the Registration Rights Agreement. These potential future payments include the following: (a) potential partial damages for failure to register and keep registered for the period specified in the Registration Rights Agreement the common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants (in a cash amount equal to 1% of the price paid to us by each investor in the Private Placement Financing on the date of and on each 30-day anniversary of such failure until the cure thereof, with no quantitative cap to the aggregate amount of such payments (provided that no such payments will be owed, other than with respect to a suspension or delisting of our common stock from the OTCQB, with respect to any period during which an investor’s Registrable Securities may all be sold without restriction under Rule 144)); (b) amounts payable if we or our transfer agent fails to timely remove certain restrictive legends from certificates representing shares of common stock issued in the Private Placement Financing or issuable upon exercise of the Warrants; (c) the portion of the \$35,000 expense reimbursement to Cranshire Master Fund that has not been paid as of the date of this prospectus; and (d) payments in respect of claims for which we provide indemnification in the Securities Purchase Agreement and the Registration Rights Agreement. Although we intend to comply with the requirements of the Securities Purchase Agreement and the Registration Rights Agreement and do not currently expect to make any such payments, it is possible that such payments may be required.

The Securities Purchase Agreement entered into in connection with the Private Placement Financing granted to the investors, until the six month anniversary of the first date on which all the Registrable Securities (as defined in the Securities Purchase Agreement) are covered by one or more effective registration statements, the right to participate in any financing by us through an issuance of any of our securities up to an amount equal to the pro rata portion of the investor’s subscription amount in the Private Placement Financing, on the same pricing and other terms and conditions as such subsequent financing, provided that the aggregate participation by all such investors collectively shall not exceed 50% of the subsequent financing amount. This right expired on January 2, 2015. The terms and conditions of such subsequent financing shall not include any provision that requires a participating investor to agree to any restrictions on its trading of any of the shares acquired in connection with the Private Placement Financing without such investor’s consent.
