

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

Form 6-K

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

For the month of December, 2019.

Commission File Number: **001-38524**

Titan Medical Inc.

(Exact Name of Registrant as Specified in Charter)

**155 University Avenue, Suite 750
Toronto, Ontario M5H 3B7
Canada**

(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): X

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

SIGNATURE

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, thereunto duly authorized.

TITAN MEDICAL INC.
(Registrant)

Date: December 23, 2019

By: /s/ Stephen Randall
Name: Stephen Randall
Title: Chief Financial Officer

EXHIBIT INDEX

99.1

News Release dated December 23, 2019.

Titan Medical Announces New Common Share Purchase Agreement With Aspire Capital Fund of up to US\$35 Million

TORONTO--(BUSINESS WIRE)--December 23, 2019--Titan Medical Inc. (“Titan” or the “Company”) (TSX: TMD) (Nasdaq: TMDI) a medical device company focused on the design, development and commercialization of a robotic surgical system for application in minimally invasive surgery (“MIS”), announces that it has entered into a Common Share Purchase Agreement (the “Agreement”) with Aspire Capital Fund, LLC (“Aspire Capital”) where Aspire Capital has committed to purchase up to US\$35.0 million of common shares of Titan at Titan’s request from time to time, until June 23, 2022. This new Agreement replaces the prior Common Share Purchase Agreement announced on August 29, 2019, which has been terminated upon entering into this Agreement.

Other terms of the Agreement provide that:

- Titan will control the timing and amount of the sale of its common shares to Aspire Capital.
 - On any business day, Titan shall have the right to direct Aspire Capital to purchase up to 100,000 common shares with a value not exceeding US\$500,000.
 - The purchase price shall be equal to the lesser of: (i) the lowest sale price of the common shares on Nasdaq on the purchase date, or (ii) the average of the three lowest closing sale prices of the common shares on Nasdaq during the 10 business days prior to the purchase date.
 - In addition to the regular purchases, Titan shall also have the right to require Aspire Capital to purchase up to an additional 30% of the trading volume of the common shares for the next business day at a purchase price equal to the lesser of: (i) the closing sale price of the common shares on Nasdaq on the purchase date, or (ii) 97% of the next business day’s volume weighted average price on Nasdaq (each such purchase, a “VWAP Purchase”). In no event shall the purchase price for a VWAP Purchase be lower than the maximum allowable discount allowed by the Toronto Stock Exchange (the “TSX”).
 - Titan shall have the right, in its sole discretion, to determine a maximum number of common shares and set a minimum market price threshold for each VWAP Purchase and there are no limits on the number of VWAP Purchases that Titan may require.
 - Aspire Capital will not be allowed to own more than 9.99% of the issued and outstanding common shares of the Company at any time without approval of the TSX.
 - The total number of common shares that may be issued under the Agreement shall not exceed 24.99% of the Company’s outstanding common shares as of the date of the Agreement unless the Company obtains shareholder approval in accordance with the rules of Nasdaq and the TSX.
 - In no event shall the purchase price for any common shares issuable under the Agreement be lower than the maximum allowable discount permitted by the TSX.
 - There are no warrants, derivatives, or other share classes associated with this Agreement.
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Under the terms of the Agreement, Titan will immediately issue 973,000 common shares to Aspire Capital as a commitment fee (the “Commitment Shares”).

Any sale of common shares by Aspire Capital is expected to be made to arm’s length parties. There are no rights of first refusal, participation rights, penalties or liquidated damages in the Agreement. Titan maintains the right to terminate the Agreement at any time, at its discretion, without any additional cost or penalty.

Titan will file a prospectus supplement (the “Prospectus Supplement”) to the Company’s Form F-3 shelf registration statement (File No. 333-232898), which was declared effective on August 2, 2019 by the U.S. Securities and Exchange Commission, qualifying the offer and sale of common shares to Aspire Capital (including the Commitment Shares).

Under the Agreement, no common shares will be sold by Aspire Capital on the TSX or on other trading markets in Canada. The TSX has conditionally approved the issuance of common shares pursuant to the Agreement, and Nasdaq has completed its review pertaining to the listing of the common shares issuable under the Agreement and the Commitment Shares without any comments.

A copy of the Prospectus Supplement will be available on EDGAR at www.sec.gov or may be obtained upon request to Titan at the following address:

155 University Avenue, Suite 750
Toronto, Ontario M5H 3B7
Canada
Tel: (416) 548-7522
E-mail: info@titanmedicalinc.com

This press release does not constitute an offer to sell or the solicitation of any offer to purchase any securities, nor will there be any sale of any securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction.

About Titan Medical Inc.

Titan Medical Inc. is focused on computer-assisted robotic surgical technologies for application in MIS. The Company is developing a single-port robotic surgical system comprised of a surgeon-controlled patient cart that includes a dual-view camera system with 3D and 2D high-definition vision options and multi-articulating instruments for performing MIS procedures, and a surgeon workstation that provides an advanced ergonomic interface to the patient cart and a 3D endoscopic view inside the patient’s body. Titan intends to initially pursue gynecologic surgical indications for use of its single-port robotic surgical system.

For more information, please visit the Company's website at www.titanmedicalinc.com and on [EDGAR at www.sec.gov](http://www.sec.gov).

Forward-Looking Statements

This news release contains "forward-looking statements" which reflect the current expectations of management of the Company's future growth, results of operations, performance and business prospects and opportunities including statements concerning timing for filing the prospectus supplement, mechanics surrounding pricing and drawdowns on the facility, sales of common shares by Aspire and selling of shares on the TSX. Wherever possible, words such as "may", "would", "could", "will", "shall", "anticipate", "believe", "plan", "expect", "intend", "estimate", "potential for" and similar expressions have been used to identify these forward-looking statements. These statements reflect management's current beliefs with respect to future events and are based on information currently available to management. Forward-looking statements involve significant risks, uncertainties and assumptions, and include, without limitation, statements regarding: our continued eligibility to use the Form F-3 shelf registration statement; our ability to raise additional capital through the sale of common shares to Aspire Capital; and the sale of common shares by Aspire Capital to arm's length parties. Many factors could cause the Company's actual results, performance or achievements to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements, including, without limitation, those listed in the "Risk Factors" section of the Company's Annual Information Form dated March 29, 2019 (which may be viewed at www.sedar.com and at www.sec.gov). Should one or more of these risks or uncertainties materialize, or should assumptions underlying the forward-looking statements prove incorrect, actual results, performance or achievements may vary materially from those expressed or implied by the forward-looking statements contained in this news release. These factors should be considered carefully, and prospective investors should not place undue reliance on the forward-looking statements. Although the forward-looking statements contained in the news release are based upon what management currently believes to be reasonable assumptions, the Company cannot assure current or prospective investors that actual results, performance or achievements will be consistent with these forward-looking statements.

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