

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

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| <b>FORM S-8</b><br><b>REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933</b> |
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**Titan Medical Inc.**

(Exact name of registrant as specified in its charter)

**Ontario, Canada**

(State or other jurisdiction of  
incorporation or organization)

**98-0663504**

(I.R.S. Employer Identification No.)

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

(Address of principal executive offices)

**TITAN MEDICAL INC. STOCK OPTION PLAN (AMENDED AND RESTATED EFFECTIVE AS OF OCTOBER 20, 2020)**  
**TITAN MEDICAL INC. DEFERRED SHARE UNIT PLAN**  
**TITAN MEDICAL INC. SHARE UNIT PLAN**  
(Full title of plan)

**C T Corporation System  
1015 15th Street N.W., Suite 1000  
Washington, DC 20005**

(Name and address of agent for service)

**(202)572-3100**

(Telephone number, including area code, of agent for service)

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*Copies to:*

**Dorsey & Whitney LLP  
James Guttman  
Richard Raymer  
TD Canada Trust Tower  
Brookfield Place  
161 Bay Street, Suite 4310  
Toronto, Ontario Canada M5J 2S1  
(416) 367-7376**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer   
Non-Accelerated Filer   
Emerging Growth Company   
Accelerated Filer   
Smaller Reporting Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

| Title of Each Class of Securities to be Registered   | Amount to be Registered <sup>(1)</sup> | Proposed Maximum Offering Price Per Share <sup>(3)</sup> | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee <sup>(2)(3)</sup> |
|--|--|--|---|--|
| Common shares, no par value, issuable (i) under the Titan Medical Inc. Stock Option Plan, as amended and restated effective as of October 20, 2020; (ii) upon exercise or settlement of awards granted under the Titan Medical Inc. Deferred Share Unit Plan effective as of May 29, 2019; and (iii) upon exercise or settlement of awards granted under the Titan Medical Inc. Share Unit Plan, as amended as of February 16, 2021 <sup>(2)</sup> | 4,781,515                              | \$1.50   | \$7,172,272.50                            | \$782.49                                     |

- (1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional securities that may be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions in accordance with the provisions of the plans.
  - (2) Represents additional common shares of Titan Medical Inc. issuable (i) upon exercise of options under the Titan Medical Inc. Stock Option Plan, as amended and restated effective as of October 20, 2020; (ii) upon exercise or settlement of awards granted under the Titan Medical Inc. Deferred Share Unit Plan effective as of May 29, 2019; and (iii) upon exercise or settlement of awards granted under the Titan Medical Inc. Share Unit Plan, as amended as of February 16, 2021.
  - (3) The proposed maximum offering price per share and the registration fee were calculated in accordance with Rule 457(c) and (h) based on the average high and low prices for the common shares of Titan Medical Inc. on April 20, 2021, as quoted on the NASDAQ Capital Market.
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## EXPLANATORY NOTE

This registration statement on Form S-8 (the “Registration Statement”) is being filed for the purpose of registering an additional 4,781,515 common shares (the “Common Shares”) of Titan Medical Inc. (the “Registrant” or “Company”) for issuance pursuant to (i) the exercise of options under the Titan Medical Inc. Stock Option Plan, as amended and restated effective as of October 20, 2020 (the “Stock Option Plan”), (ii) the exercise or settlement of awards granted under the Titan Medical Inc. Deferred Share Unit Plan effective as of May 29, 2019 (the “DSU Plan”), and (iii) the exercise or settlement of awards granted under the Titan Medical Inc. Share Unit Plan, as amended as of February 16, 2021 (the “SU Plan”).

On July 22, 2020, the Registrant filed a registration statement on Form S-8 (File No. 333-240018) to register 9,455,713 Common Shares of the Registrant issuable (i) upon exercise of options under the Titan Medical Inc. Stock Option Plan, as amended and restated effective as of July 15, 2020, (ii) upon exercise or settlement of awards granted under the DSU Plan, and (iii) upon exercise or settlement of awards granted under the Titan Medical Inc. Share Unit Plan effective as of May 29, 2019.

On October 20, 2020, the Registrant’s board of directors adopted amendments to the Stock Option Plan to remove provisions relating to incentive stock options qualified under Section 422 of the United States Internal Revenue Code that were not approved by the shareholders of the Registrant.

On February 16, 2021, the Registrant’s board of directors adopted amendments to the SU Plan (i) to allow the grant of restricted share units and dividend restricted share units to non-employee directors of the Company, (ii) to permit non-employee directors of the Company to elect to receive the cash component of their compensation in restricted share units and (iii) to permit the Company to make such arrangements as the Company deems appropriate for the settlement of outstanding awards in the event of a change of control of the Company.

The contents of the Registrant’s registration statements on Form S-8 (File Nos. 333-240018 and 333-229612) are incorporated by reference herein.

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**PART I**  
**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

**Item 1. Plan Information**

Information required by Part I to be contained in the Section 10(a) prospectus is omitted from the Registration Statement in accordance with Rule 428 under the Act and Note 1 to Part I of Form S-8.

**Item 2. Registrant Information and Employee Plan Annual Information**

Information required by Part I to be contained in the Section 10(a) prospectus is omitted from the Registration Statement in accordance with Rule 428 under the Act and Note 1 to Part I of Form S-8.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation Of Documents By Reference.**

The following documents which have been and will in the future be filed by the Registrant with the United States Securities and Exchange Commission (the "SEC") are incorporated into this Registration Statement by reference:

- (a) Our Annual Report on Form 40-F for the year ended December 31, 2020, filed with the SEC on April 1, 2021;
- (b) All other reports filed by the Registrant under Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") since December 31, 2020.
- (c) The description of the Common Shares contained in our Registration Statement on Form 40-F, as filed with the SEC on June 11, 2018, including any amendment or report filed for the purpose of amending such description.

In addition, all reports and documents filed by us under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities being offered have been sold or which deregisters all securities then remaining unsold, and any Form 6-K furnished by us during such period or portions thereof that are identified in such Form 6-K as being incorporated by reference into this Registration Statement, shall be deemed to be incorporated by reference in and to be part of this Registration Statement from the date of filing of each such document.

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**Item 4. Description of Securities.**

Not applicable.

**Item 5. Interests of Named Experts and Counsel.**

None.

**Item 6. Indemnification of Directors and Officers.**

Under the *Business Corporation Act* (Ontario) (the "OBCA"), the Registrant may indemnify a director or officer, a former director or officer or another individual who acts or acted at the Registrant's request as a director or officer, or an individual acting in a similar capacity, of another entity, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of that association with the Registrant or other entity on condition that (i) the individual acted honestly and in good faith with a view to the best interests of the Registrant or, as the case may be, to the best interests of the other entity for which the individual acted as a director or officer or in a similar capacity at the Registrant's request, and (ii) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his conduct was lawful. Further, the Registrant may, with court approval, indemnify a person described above in respect of an action by or on behalf of the Registrant or other entity to obtain a judgment in its favor, to which the individual is made a party because of the individual's association with the Registrant or other entity, against all costs, charges and expenses reasonably incurred by the individual in connection with such action if the individual fulfills condition (i) above. Additionally, the Registrant may advance money to a director, officer or other individual for the costs, charges, and expenses of a proceeding referred to above, with the necessary court approval where noted, but the individual is required to repay the money to the Registrant if the individual does not satisfy condition (i) above. An individual described above is also entitled to indemnification as described above from the Registrant as a matter of right if the individual was not judged by a court or other competent authority to have committed any fault or omitted to do anything the individual ought to have done, and he fulfills conditions (i) and (ii) above. The Registrant has entered into an indemnity agreement with each of its directors under which the Registrant has agreed to indemnify the individual in substantially the same circumstances as outlined in this paragraph.

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In accordance with the OBCA, the by-laws of the Registrant provide that the Registrant shall indemnify a director or officer, a former director or officer, or an individual who acts or acted at the Registrant's request as a director or officer, or an individual acting in a similar capacity, of another entity, and such person's heirs and legal representatives, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of that association with the Registrant or other entity, provided that (i) the individual acted honestly and in good faith with a view to the best interests of the Registrant or, as the case may be, to the best interest of the other entity for which the individual acted as a director or officer or in a similar capacity at the Registrant's request; and (ii) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the person had reasonable grounds for believing that the individual's conduct was lawful.

A policy of directors' and officers' liability insurance is maintained by the Registrant, at its expense, which insures directors and officers for losses as a result of claims against the directors and officers of the Registrant in their capacity as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Registrant pursuant to the foregoing provisions, the Registrant has been informed that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

**Item 8. Exhibits.**

| <u>Number</u> | <u>Exhibit</u>   |
|---------------|--|
| <u>4.1</u>    | <a href="#">Titan Medical Inc. Stock Option Plan (Amended and Restated effective as of October 20, 2020) (incorporated by reference from Exhibit 99.1 to the Company's Form 6-K filed on April 16, 2021)</a> |
| <u>4.2</u>    | <a href="#">Titan Medical Inc. Deferred Share Unit Plan (incorporated by reference from Exhibit 99.3 to the Company's Form 6-K filed on April 16, 2021)</a>  |
| <u>4.3</u>    | <a href="#">Titan Medical Inc. Share Unit Plan (amended as of February 16, 2021) (incorporated by reference from Exhibit 99.2 to the Company's Form 6-K filed on April 16, 2021)</a>                         |
| <u>5.1</u>    | <a href="#">Opinion of Borden Ladner Gervais LLP</a>   |
| <u>23.1</u>   | <a href="#">Consent of Borden Ladner Gervais LLP (Included in Exhibit 5.1)</a>   |
| <u>23.2</u>   | <a href="#">Consent of BDO Canada LLP, Chartered Professional Accountants and Licensed Public Accountants</a>  |
| <u>24.1</u>   | <a href="#">Power of Attorney (See Signature Pages)</a>  |

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**Item 9. Undertakings.**

(a) The Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment hereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

*provided, however,* that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference into this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in such Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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**SIGNATURES**

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Toronto, Province of Ontario, Canada on April 23, 2021.

**TITAN MEDICAL INC.**

/s/ Monique L. Delorme

Name: Monique L. Delorme

Title: Chief Financial Officer

(Principal Financial Officer)

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**POWER OF ATTORNEY**

Each person whose signature appears below constitutes and appoints David McNally and Monique L. Delorme as his attorney-in-fact, with the power of substitution, for them in any and all capacities, to sign any amendments to this Registration Statement, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorneys-in-fact, or their substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

| <b><u>Signature</u></b>                                   | <b><u>Title</u></b>  | <b><u>Date</u></b> |
|---|--|--------------------|
| <u>/s/ David McNally</u><br>David McNally                 | President, Chief Executive Officer and Chairman<br>(Principal Executive Officer) | April 23, 2021     |
| <u>/s/ Monique L. Delorme</u><br>Monique L. Delorme       | Chief Financial Officer<br>(Principal Financial Officer)                         | April 23, 2021     |
| <u>/s/ Paul Cataford</u><br>Paul Cataford                 | Director   | April 23, 2021     |
| <u>/s/ Anthony J. Giovinazzo</u><br>Anthony J. Giovinazzo | Director   | April 23, 2021     |
| <u>/s/ Cary G. Vance</u><br>Cary G. Vance                 | Director   | April 23, 2021     |
| <u>/s/ Stephen Randall</u><br>Stephen Randall             | Director   | April 23, 2021     |

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**AUTHORIZED REPRESENTATIVE IN THE UNITED STATES**

/s/ David McNally  
David McNally

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Authorized Representative  
in the United States

April 23, 2021

Borden Ladner Gervais LLP  
Bay Adelaide Centre, East Tower  
22 Adelaide Street West  
Toronto, ON, Canada M5H 4E3  
T 416.367.6000  
F 416.367.6749  
big.com



April 23, 2021

Titan Medical Inc.  
155 University Avenue, Suite 750  
Toronto, Ontario  
Canada M5H 3B7

Dear Sirs/Mesdames:

**Re: Titan Medical Inc. – Registration Statement on Form S-8**

We have acted as Ontario legal counsel to Titan Medical Inc. (the “**Corporation**”) in connection with the preparation of a Registration Statement on Form S-8 (the “**Registration Statement**”) under the United States Securities Act of 1933, as amended (the “**Act**”), relating to the potential issuance and sale by the Corporation, from time to time, of up to 4,781,515 common shares of the Corporation (the “**Shares**”) issuable upon: (i) exercise of options (the “**Options**”) granted or issued under the Titan Medical Inc. Stock Option Plan, as amended and restated on October 20, 2020 (the “**Plan**”); (ii) the exercise or settlement of awards granted under the Titan Medical Inc. Deferred Share Unit Plan effective as of May 29, 2019 (the “**DSU Plan**”); and (iii) the exercise or settlement of awards granted under the Titan Medical Inc. Share Unit Plan, as amended as of February 16, 2021 (the “**SU Plan**”).

We have examined originals or copies, certified or otherwise to our satisfaction of such documents and considered such questions of law as we considered necessary as a basis for our opinion, including the Plan, the DSU Plan, the SU Plan, and resolutions of the board of directors of the Corporation approving the filing of the Registration Statement. In all such examinations, we have assumed (i) the genuineness of all signatures, the legal capacity of all individuals signing any documents, the authenticity of all documents submitted to us as originals, the conformity to authentic original documents of all documents submitted to us as copies, whether facsimile, photostatic, electronic, certified or otherwise, and (ii) the truthfulness of all facts set forth in the public records and in certificates of public officials.

Our opinion herein is limited to the laws of the Province of Ontario and the federal laws of Canada applicable therein.

Based on and subject to the foregoing, and provided that all necessary corporate action has been taken by the Corporation to authorize each issuance of the Options and the issuance of Shares upon the due exercise of the Options in accordance with the terms and conditions of the Plan, we are of the opinion that upon issuance of Shares upon the valid exercise of Options in accordance with the terms of the Plan, including, in each case, receipt by the Corporation of payment in full for the Shares in respect of which such Options are exercised, as the case may be, such Shares will be validly issued as fully paid and non-assessable Shares. Provided that all necessary corporate action has been taken by the Corporation to authorize awards granted under the DSU Plan or the SU Plan and the issuance of Shares which may be the subject of such awards, we are of the opinion that upon issuance of Shares underlying awards granted in accordance with the terms of the DSU Plan or the SU Plan, in each case, such Shares will be validly issued as fully paid and non-assessable Shares.

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Borden Ladner Gervais LLP  
Bay Adelaide Centre, East Tower  
22 Adelaide Street West  
Toronto, ON, Canada M5H 4E3  
T 416.367.6000  
F 416.367.6749  
blg.com



We hereby consent to the use of our name in, and the filing of this opinion as an exhibit to, the Registration Statement. In giving such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Act.

Yours truly,

/ s / Borden Ladner Gervais LLP

Consent of Independent Registered Public Accounting Firm

Titan Medical Inc.  
Toronto, Canada

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated February 20, 2021, on the consolidated financial statements of Titan Medical Inc. (the “Company”) for the years ended December 31, 2020 and December 31, 2019, appearing in the Company’s Annual Report on Form 40-F filed on April 1, 2021.

/s/ BDO Canada LLP

BDO Canada LLP  
Toronto, Canada

April 23, 2021