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 March, 2019.

Commission File Number: 001-38524

Titan Medical Inc.

(Exact Name of Registrant as Specified in Charter)

170 University Avenue, Suite 1000 Toronto, Ontario M5H 3B3 Canada

(Address of principal executive offices)

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

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: March 25, 2019 By: /s/ Stephen Randall

Name: Stephen Randall
Title: Chief Financial Officer

Titan Medical and Teleflex Incorporated Announce Collaboration for Development of Robotic Ligation Technology

TORONTO & WAYNE, Pa.--(BUSINESS WIRE).--March 25, 2019.--Titan Medical Inc. (TSX: TMD) (Nasdaq: TMDI) ("Titan" or the "Company"), a medical device company focused on the design and development of a robotic surgical system for application in minimally invasive surgery ("MIS") and Teleflex Incorporated (NYSE: TFX), a leading global provider of medical technologies for critical care and surgery, announce a collaboration under which Teleflex's market-leading polymer ligation technology will be integrated into Titan's development-stage, single-port robotic surgery system. Teleflex's Weck® Hem-o-lok® polymer ligation system is a proven ligation technology for vessel sealing with enhanced clip security features that surgeons have used in millions of patients worldwide.

David McNally, President and CEO of Titan Medical, said, "Our patented, multi-articulating instruments have been developed to facilitate the integration of advanced tools and technologies. This collaboration with Teleflex permits the expansion of our robotic instrument portfolio to offer market-leading, proven technology in a variety of surgical disciplines. Teleflex is a leading and innovative medical technology company with whom we share a common purpose of improving patient outcomes with clinically-inspired technology. We are proud to be working with them."

James Ferguson, President and General Manager of the Surgical Division of Teleflex, said, "We continue to partner with leading robotic companies to allow surgeons globally to use our trusted Weck ligation solutions. We are excited about Titan Medical integrating our technology into its single-port robotic surgery system."

About Titan Medical Inc

Titan Medical Inc. is focused on computer-assisted robotic surgical technologies for application in MIS. The Company is developing the SPORT Surgical System, a single-port robotic surgical system comprised of a surgeon-controlled patient cart that includes a 3D high-definition vision system 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 initially to pursue focused surgical indications for the SPORT Surgical System, which may include one or more of gynecologic, urologic, colorectal or general abdominal procedures.

For more information, please visit the Company's website at www.titanmedicalinc.com.

Forward-Looking Statements of Titan Medical Inc.

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. Wherever possible, words such as "may", "would", "could", "will", "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. 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 31, 2018 (which may be viewed at www.sedar.com). 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 prospective investors that actual results, performance or achievements will be consistent with these forward-looking statements.

About Teleflex Incorporated

Teleflex is a global provider of medical technologies designed to improve the health and quality of people's lives. We apply purpose-driven innovation – a relentless pursuit of identifying unmet clinical needs – to benefit patients and healthcare providers. Our portfolio is diverse, with solutions in the fields of vascular access, interventional cardiology and radiology, anesthesia, emergency medicine, surgical, urology and respiratory care. Teleflex employees worldwide are united in the understanding that what we do every day makes a difference. For more information, please visit teleflex.com.

 $Teleflex \ is \ the \ home \ of \ Arrow^{@}, \ Deknatel^{@}, \ Hudson \ RCI^{@}, \ LMA^{@}, \ Pilling^{@}, \ R\ddot{u}sch^{@}, \ UroLift^{@}, \ and \ Weck^{@} - trusted \ brands \ united \ by \ a \ common \ sense \ of \ purpose.$

Forward-Looking Statements of Teleflex Incorporated

Any statements contained in this press release that do not describe historical facts may constitute forward-looking statements. Any forward-looking statements contained herein are based on Teleflex management's current beliefs and expectations, but are subject to a number of risks, uncertainties and changes in circumstances, which may cause actual results or company actions to differ materially from what is expressed or implied by these statements. These risks and uncertainties are identified and described in more detail in Teleflex's filings with the Securities and Exchange Commission, including our Annual Report on Form 10-K.

CONTACT:
For Titan Medical Inc.:
LHA Investor Relations
Kim Sutton Golodetz
(212) 838-3777
kgolodetz@lhai.com or
Bruce Voss
(310) 691-7100
bvoss@lhai.com
For Teleflex Incorporated:
Jake Elguicze
Treasurer and Vice President, Investor Relations
(610) 948-2836