

Form 51-102F3
Material Change Report

Item 1 Name and Address of Company

Titan Medical Inc. (the “**Company**” or “**Titan**”)
170 University Avenue
Suite 1000
Toronto, Ontario
M5H 3B3

Item 2 Date of Material Change

September 8, 2016 and September 9, 2016.

Item 3 News Release

The press releases attached as Schedule “A” and Schedule “B” were disseminated through Marketwired on September 8, 2016 and September 9, 2016, respectively, with respect to the material changes.

Item 4 Summary of Material Change

On September 8, 2016 the Company announced its intention to commence an offering of units (“**Units**”) by way of a prospectus supplement (the “**Prospectus Supplement**”) to the Company’s base shelf prospectus dated August 18, 2015, to be filed with securities regulators in Ontario, British Columbia and Alberta and on a private placement basis in the United States.

On September 9, 2016 the Company announced that Bloom Burton & Co. Limited and Echelon Wealth Partners Inc. had agreed to offer Units on a “best efforts” basis at a price of CDN\$0.60 per Unit.

Item 5 Full Description of Material Change

5.1 Full Description of Material Change

Please see the press releases attached as Schedule “A” and Schedule “B”.

5.2 Disclosure for Restructuring Transactions

Not applicable.

Item 6 Reliance on subsection 7.1(2) of National Instrument 51-102

Not applicable.

Item 7 Omitted Information

Not applicable.

Item 8 Executive Officer

The following executive officer is knowledgeable about the material changes and may be contacted about this report:

Stephen Randall
Chief Financial Officer
(416) 548-7522 (ext. 15e)

Email: stephen@titanmedicalinc.com

Website: www.titanmedicalinc.com

Item 9 Date of Report

September 12, 2016.

Schedule “A”

[See Attached]

**NOT FOR DISTRIBUTION TO UNITED STATES NEWSWIRE SERVICES OR FOR
DISSEMINATION IN THE UNITED STATES**



170 University Avenue • Suite 1000
Toronto, Ontario, Canada M5H 3B3 • Tel: 416.548.7522
info@titanmedicalinc.com • www.titanmedicalinc.com

**TITAN MEDICAL INC. ANNOUNCES
OVERNIGHT MARKETED EQUITY OFFERING**

Toronto, ON – (Marketwired – September 8, 2016) – Titan Medical Inc. ("Titan" or the "Company") (TSX: TMD) (OTCQX: TITXF) announced today that it will undertake an overnight marketed public offering (the "Offering") of units (the "Units"), comprising common shares of the Company and common share purchase warrants (each a "Warrant"). The Offering will be undertaken on a best efforts agency basis in the provinces of British Columbia, Alberta and Ontario pursuant to a prospectus supplement (the "**Prospectus Supplement**") to the Company's base shelf prospectus dated August 18, 2015 (together with the Prospectus Supplement, the "**Prospectus**"), to be filed with securities regulators in Ontario, British Columbia and Alberta. The Units may also be offered for sale in the United States through one or more United States registered broker-dealer(s) appointed by the Agents (as defined below) as sub-agent(s) pursuant to exemptions from the registration requirements of the U.S. Securities Act and applicable state laws. The number of Units to be distributed, the price and composition of each Unit and the exercise price of each Warrant will be determined in the context of the market with final terms to be determined at the time of pricing. Bloom Burton & Co. Limited and Echelon Wealth Partners Inc. will serve as co-agents (the "**Agents**") for the Offering in Canada.

The Offering is subject to a number of conditions, including, without limitation, receipt of all regulatory approvals. The net proceeds of the Offering will be used to fund continued development work in connection with the Company's SPORT™ Surgical System, as well as for working capital and other general corporate purposes. Further details will be disclosed in the Prospectus Supplement.

About Titan Medical Inc.

Titan Medical Inc. is a Canadian public company focused on the design and development of a robotic surgical system for application in minimally invasive surgery ("MIS"). The Company's SPORT™ Surgical System, currently under development, includes a surgeon-controlled robotic platform that incorporates a 3D high-definition vision system and multi-articulating instruments for performing MIS procedures through a single incision. The surgical system also includes a surgeon workstation that provides a surgeon with an advanced ergonomic interface to the robotic platform for controlling the instruments and viewing the inside of a patient's body in 3D during MIS procedures. The SPORT™ Surgical System is designed to enable surgeons to perform a broad set of surgical procedures for general abdominal, gynecologic, urologic and colorectal indications. For more information, visit the Company's website at www.titanmedicalinc.com.

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. 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, including with respect to the use of the net proceeds of the Offering, 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 30, 2016 (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.

U.S. Securities Law Caution

The securities described herein have not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "U.S. Securities Act"), or any state securities laws, and accordingly, may not be offered or sold to, or for the account or benefit of, persons in the United States or "U.S. persons," as such term is defined in Regulation S promulgated under the U.S. Securities Act ("U.S. Persons"), except in compliance with the registration requirements of the U.S. Securities Act and applicable state securities requirements or pursuant to exemptions therefrom. This press release does not constitute an offer to sell or a solicitation of an offer to buy any of the Company's securities to, or for the account or benefit of, persons in the United States or U.S. Persons.

Neither TSX nor its Regulation Services Provider (as that term is defined in the policies of the TSX) accepts responsibility for the adequacy or accuracy of this release.

CONTACT INFORMATION

Titan Medical Inc.

John Hargrove, Chief Executive Officer

(416) 548-7522 (ext. 151)

john.hargrove@titanmedicalinc.com

www.titanmedicalinc.com

Schedule “B”

[See Attached]

**NOT FOR DISTRIBUTION TO UNITED STATES NEWSWIRE SERVICES OR FOR
DISSEMINATION IN THE UNITED STATES**



170 University Avenue • Suite 1000
Toronto, Ontario, Canada M5H 3B3 • Tel: 416.548.7522
info@titanmedicalinc.com • www.titanmedicalinc.com

Titan Medical Inc. Announces Pricing of Overnight Marketed Equity Offering

Toronto, ON – (Marketwired – September 9, 2016) – Titan Medical Inc. ("**Titan**" or the "**Company**") (TSX: TMD) (OTCQX: TITXF) is pleased to announce today that it has priced its previously announced overnight marketed offering of equity securities (the "**Offering**"). Pursuant to the Offering, Titan will issue units of the Company ("**Units**") at a price of CDN \$0.60 per Unit. Each Unit is comprised of one common share of the Company (a "**Common Share**") and one common share purchase warrant (a "**Warrant**"). Each Warrant is exercisable at a price of CDN \$0.75 and entitles the holder thereof to acquire one Common Share for a period of 5 years following the closing of the Offering (the "**Closing**").

The Offering will be undertaken on a best efforts basis pursuant to the terms and conditions of an agency agreement to be entered into between the Company and Bloom Burton & Co. Limited and Echelon Wealth Partners Inc. (the "**Agents**"). In connection with the Offering, the Agents will be paid a cash commission equal to 7.0% of the gross proceeds of the Offering and they will be issued that number of non-transferable broker warrants exercisable for Common Shares equal to 7.0% of the number of Units sold in the Offering (in each case excluding any Units sold to certain excluded subscribers). The Company will also grant the Agents an over-allotment option to offer for sale that number of additional Units and/or Warrants equal to 15% of the Units sold under the Offering, exercisable at any time and from time to time on or before the date of Closing (the "**Closing Date**") or for a period of up to 30 days following the Closing Date.

The Company expects the Closing to occur on or about September 20, 2016. The Offering is subject to the satisfaction of certain customary closing conditions, including, but not limited to, the receipt of all necessary regulatory and stock exchange approvals (including, for certainty, the approval of the Toronto Stock Exchange (the "**TSX**")). The Offering is to be effected in each of the provinces of British Columbia, Alberta and Ontario by way of a prospectus supplement (the "**Prospectus Supplement**") to Titan's base shelf prospectus dated August 18, 2015. In addition, the Units and/or Warrants may also be offered for sale in the United States, by or through a United States registered broker-dealer appointed by the Agents as sub-agent, and in certain offshore jurisdictions, in each case under available exemptions from the prospectus and registration requirements of applicable securities laws.

The net proceeds of the Offering (the "**Net Proceeds**") will be used to fund continued development work in connection with the Company's SPORT™ Surgical System, as well as for working capital and other general corporate purposes. Details as to the specific allocation of the Net Proceeds will be disclosed in the Prospectus Supplement.

The Common Shares are listed on the TSX under the symbol "TMD". An application will be made to list the Common Shares issuable under the Offering for trading on the TSX, and it is intended that the Company will make an application to list the Warrants for trading on the TSX under the symbol "TMD.WT.F". Listing will be subject to the Company fulfilling all of the requirements of the TSX.

About Titan Medical Inc.

Titan Medical Inc. is a Canadian public company focused on the design and development of a robotic surgical system for application in minimally invasive surgery ("MIS"). The Company's SPORT™ Surgical System, currently under development, includes a surgeon-controlled robotic platform that includes a 3D high-definition vision system and instruments for performing MIS procedures. The surgical system also includes a surgeon workstation that provides the surgeon with an advanced ergonomic interface to the robotic platform for controlling the instruments and provides a 3D high-definition endoscopic view of inside a patient's body. The SPORT™ Surgical System is designed to enable surgeons to perform a broad set of surgical procedures for general abdominal, gynecological and urologic indications. For more information, visit the Company's website at www.titanmedicalinc.com.

Forward-Looking Statements

This press release contains "forward-looking statements" which reflect the current expectations of management of the Company, including with respect to the intended use of the Net Proceeds. Such statements include, but are not limited to, statements regarding receipt of applicable regulatory approvals, the anticipated Closing Date and the proposed use of proceeds. 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 30, 2016 (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.

U.S. Securities Law Caution

The securities described herein have not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "U.S. Securities Act"), or any state securities laws, and accordingly, may not be offered or sold to, or for the account or benefit of, persons in the United States or "U.S. persons," as such term is defined in Regulation S promulgated under the U.S. Securities Act ("U.S. Persons"), except in compliance with the registration requirements of the U.S. Securities Act and applicable state securities requirements or pursuant to exemptions therefrom. This press release does not constitute an offer to sell or a solicitation of an offer to buy any of the Company's securities to, or for the account or benefit of, persons in the United States or U.S. Persons.

CONTACT INFORMATION

Titan Medical Inc.

John Hargrove

Chief Executive Officer

(416) 548-7522 (ext. 151)

john.hargrove@titanmedicalinc.com

www.titanmedicalinc.com